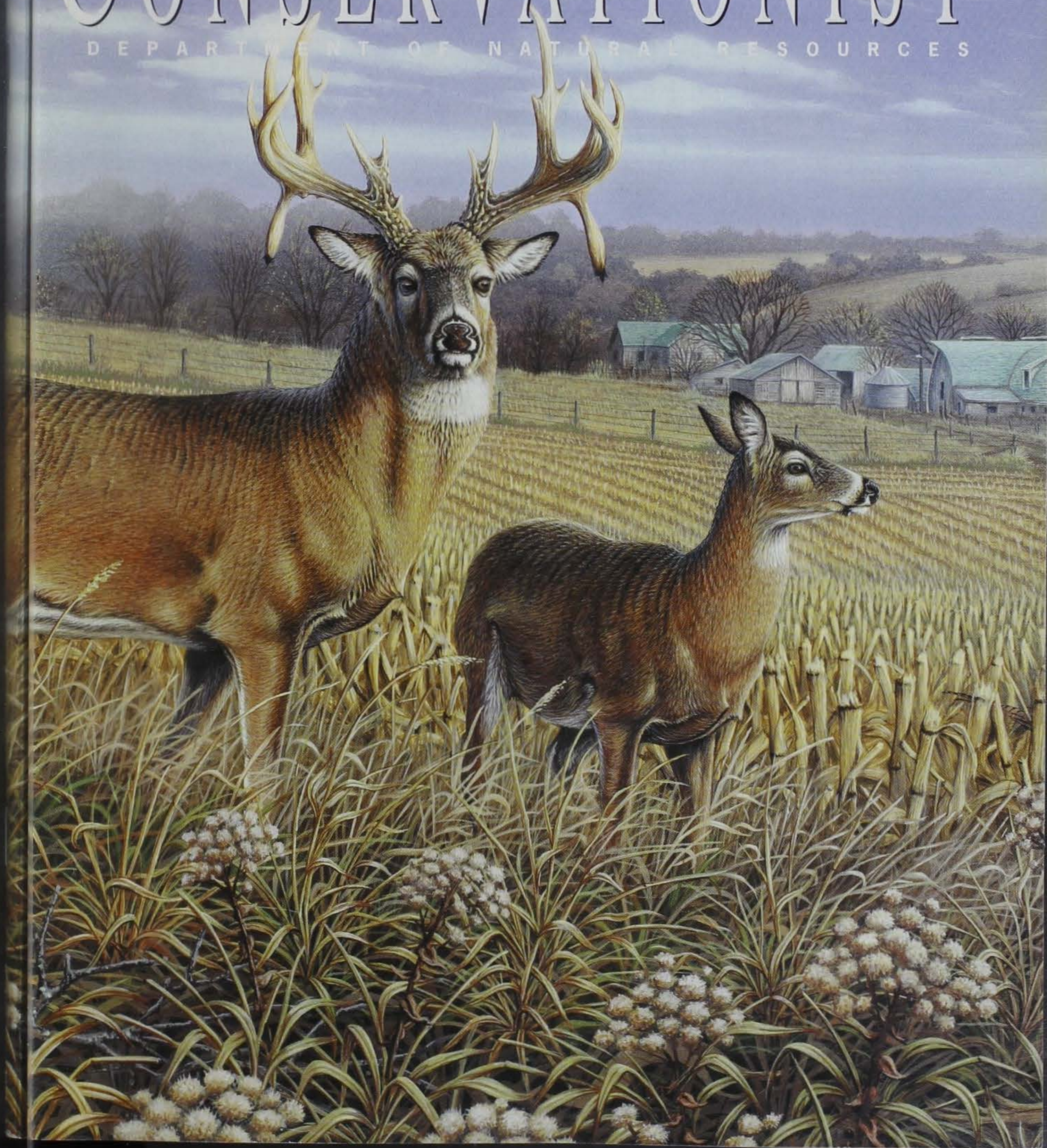


SEPTEMBER/OCTOBER 2001

IOWA CONSERVATIONIST

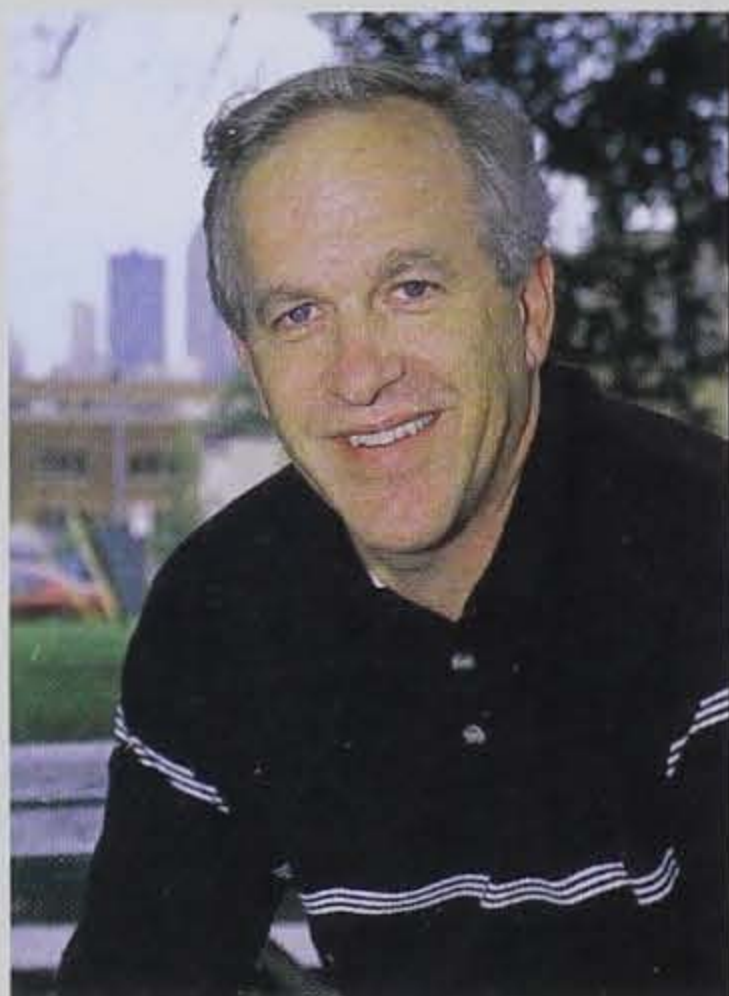
DEPARTMENT OF NATURAL RESOURCES



FROM THE DIRECTOR

Energy Efficiency is Part of Environmental Stewardship

Bob Casteline



While autumn is a favorite season for many Iowans, thoughts of winter bring more than the normal concerns about cold weather. The memory of last year's heating bills worry many of us.

And with good reason.

When record cold and snow hit last year, natural gas prices doubled and tripled, pounding home a serious lesson: *energy efficiency pays*.

If there ever was an issue that combines our pocket books, life-styles and environment, it is how we use and produce energy. The lessons from last year show that we need to be better stewards of a natural resource most of us could not live without.

Today, our state and national leaders are working to determine the best policies for how to meet our growing energy demands and cushion the impacts of fluctuating fuel prices. It's a critical issue for Iowa, where 60 percent of our \$6.1 billion annual energy bill leaves the state to benefit other economies. Also, 98 percent of our energy resources are imported in the form of coal, petroleum, natural gas and nuclear power.

Environmentally, energy use is the greatest contributor to air pollution in our state, especially particulate matter, toxins and greenhouse gases like carbon dioxide. Even our water and land quality are impacted by

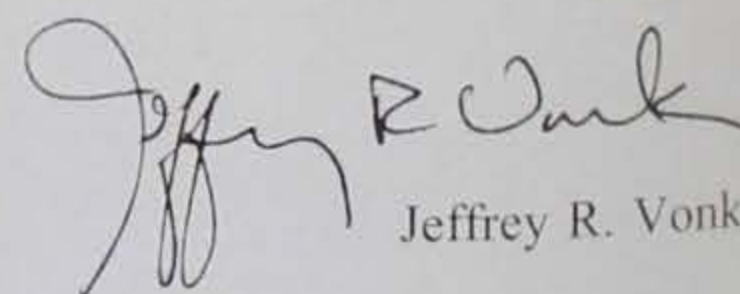
activities that require energy consumption.

There is no question that energy efficiency and renewable energy like wind and ethanol should be significant parts of our state's energy policy portfolio. I look forward to working with our state leaders as we carry out the actions that will improve our energy future.

Meanwhile, there's still the threat of winter heating bills looming. What can you do? The lesson here is easy: the less energy you consume, the less you pay and the better it is for our environment.

Energy efficiency does not mean life-style changes. It means taking rather simple actions like insulating your home, caulking, replacing inefficient heating and cooling equipment, installing a programmable thermostat, and keeping your vehicle in good running condition. All these tips can save 10 to 30 percent on your energy bills, while improving comfort.

As Iowa improves and embraces the concept of environmental stewardship, remember energy in your efforts. Our environment and your pocketbook will thank you in the long run.


Jeffrey R. Vonk

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Departments

2 From the Director

50 Parks Profile

54 Conservation 101

56 Kids' Corner

58 Conservation Update

62 Warden's Diary

63 Parting Shot

Features

6 2001 HUNTING FORECAST

by Terry W. Little

The 2001 outlook for Iowa's hunters is a mixed bag of good and bad. Find out the early predictions for this fall.

12 SEASON DATES AND LIMITS

16 2000 RECORD RACKS

22 RESTORING IOWA'S WILDLIFE

by Terry W. Little

Following the successful restoration efforts of the mid-1960s and 1970s, a number of other wildlife species benefitted from the lessons learned, and Iowa was beginning to see expanding wildlife diversity.

34 GUESS WHAT'S LURKING IN THE MIGHTY MISSISSIPPI

by Melvin C. Bowler

The Mississippi River exemplifies the diversity of fish species in Iowa's waters. Find out just what swims between the banks of the Big River.

42 FALLING ON HARD TIMES

by Jim Jansen

It wasn't supposed to happen to him, but it did. Read Jim Jansen's account of a "Fall that could change your life."

46 THE WHITE PELICAN

by Lowell Washburn

The white pelican may just be America's most popular feathered angler. With its long-distance soaring abilities and unique fishing techniques, it doesn't take long for these birds to draw a crowd of human onlookers.

September/October 2001
Volume 60, Number 5

STAFF

Ross Harrison, Bureau Chief
Julie Sparks, Editor
Alan Foster, Managing Editor
Lowell Washburn, Writer/Photographer
Clay Smith, Photographer
Larry Pool, Graphic Artist
Makila Lora, Editorial Assistant
Circulation, 515/281-3359 or 281-3887

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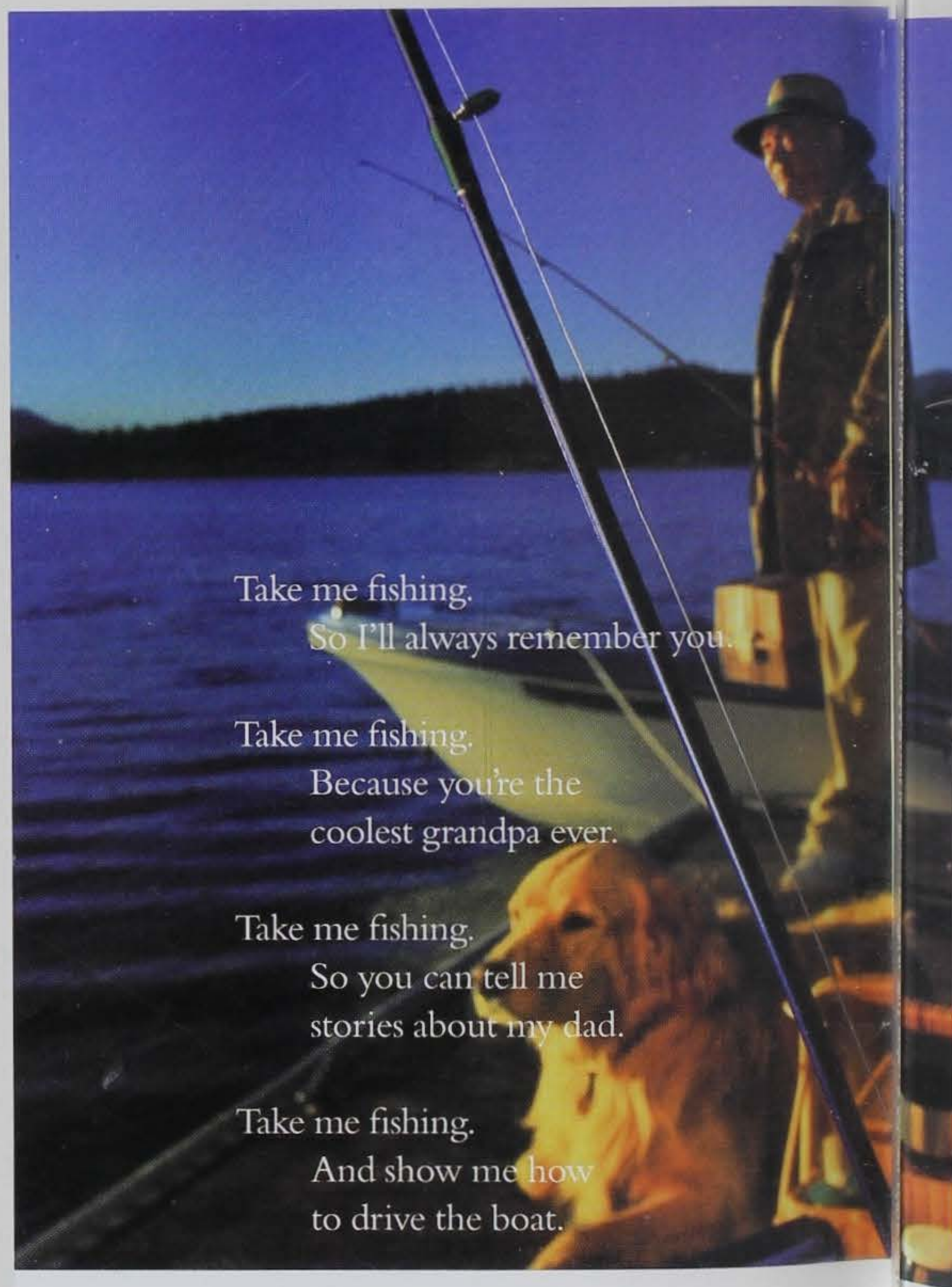
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TTD (515) 242-5967

Iowa Conservationist (ISSN 0021-0471) is published bimonthly by the Iowa Department of Natural Resources, Wallace State Office Building, 502 E. Ninth Ave., Des Moines, Iowa 50319-0034. Periodicals postage paid in Des Moines, Iowa and additional mailing offices. Subscription rates: \$12 for one year, \$18 for two years and \$24 for three years. Prices subject to change without notice. Include mailing label for renewals and address changes. POSTMASTER: Send changes to the *Iowa Conservationist*, Department of Natural Resources, Wallace State Office Building, 502 E. Ninth Ave., Des Moines, Iowa 50319-0034.

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Take me fishing.
So I'll always remember you.

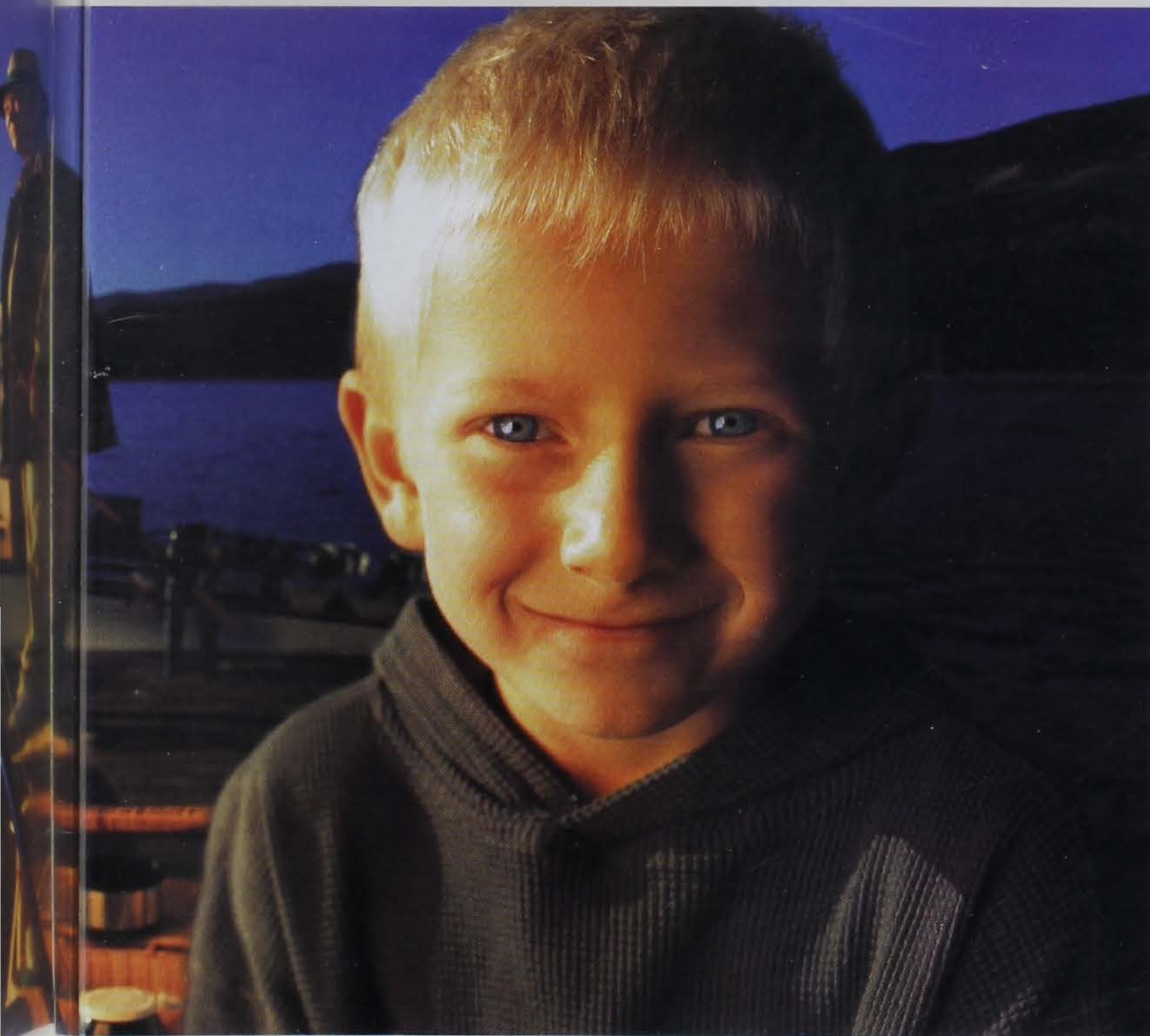
Take me fishing.
Because you're the
coolest grandpa ever.

Take me fishing.
So you can tell me
stories about my dad.

Take me fishing.
And show me how
to drive the boat.

Take me fishing.
So I'll always remember you.

At the time of publication, no new "Letters" had been received. The *Iowa Conservationist* welcomes letters from readers. Letters should address timely natural resource, environmental or magazine content issues and be no longer than 250 words. They must include the author's name, city of residence and daytime phone number to confirm authenticity. Selected letters may be edited for length and clarity.



Water works wonders

FOR FISHING, BOATING, AND
THE ENVIRONMENT

2001 Hunting Forecast 2001 Hunting Forecast 2001 Hunting Forecast 2001 Hunting Forecast 2001 Hunting Forecast

by Terry W. Little

Habitat and weather . . . regular readers of the *Iowa Conservationist* know wildlife biologists preach this message constantly:

The status of wildlife populations depends on the amount of habitat available, the effects of winter weather on survival of adults, and on weather during the reproductive season in the spring.

Unfortunately, neither trends in habitat conditions nor weather were especially encouraging in 2001, and the outlook for this year's hunting seasons is decidedly mixed.

Conservation Reserve Program (CRP) contracts that retired whole fields from crop production and resulted in excellent wildlife habitat are still expiring and the number of acres set aside continues to decline. Whole-field contracts are being replaced by narrow buffer strips along stream corridors that are designed to reduce erosion and provide some wildlife habitat. But research by the DNR suggests the buffer strip approach may produce only one-fourth of the upland game birds that came from whole fields of

nesting cover. Still, buffer strips are better than no cover and are the only option available to farmers in the near future.

Weather during most of 2001 has been extreme. Last fall was very mild until early December. Upland bird hunters complained of widely scattered pheasants and quail. Archers felt deer were moving mostly on warm nights. Both felt unseasonably mild weather hampered hunting success.

Then the other shoe dropped. On Dec. 10, most of the state was buried under nearly a foot of powdery snow. During the following week other storms added up to another foot in many regions and made any attempt to hunt an endurance contest not for the fainthearted. For many, late-season hunting stopped before Christmas.

Temperatures in December and early January were near record lows across much of the state, but moderated to more seasonal levels later in January. Freezing and thawing eventually created a nearly impenetrable crust of snow. Most of the state set records of 100 or more

continuous days with snow cover.

Weather was also unfavorable during the nesting season. Rain seemed to fall daily from mid-May to late June and temperatures were unseasonably cool. Large portions of southeast and northwest Iowa were wet for so long crops could not be planted, and those that were are developing so slowly that thousands of acres may not produce an income for farmers this year. The combination of wet, cool weather during the critical weeks when game birds are hatching has historically resulted in below-average reproduction.

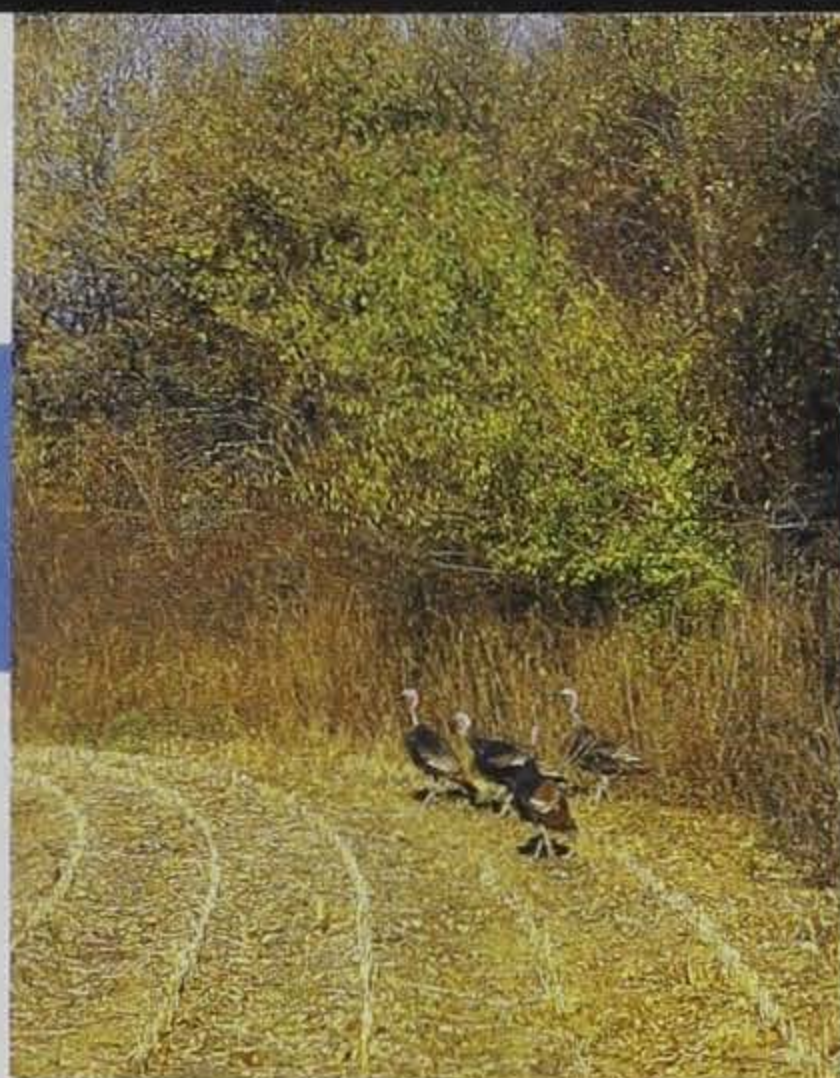
How bad was the weather? For the past 30 years, Iowa has averaged 26 inches of snow and 3.7 inches of precipitation during the spring. This year the totals were 61 percent above normal for snowfall and 31 percent above normal for spring rains.

This severe weather produced a great deal of concern for wildlife. Deer, turkeys, pheasants and quail were reported starving because of deep or hard-crusted snow. Deer moved into shelterbelts and backyard plantings in numbers not previously seen. They destroyed shrub plantings

Roger A. Hill



Despite the harsh winter, deer seemed to have "weathered" the past year remarkably well. In fact, Iowa's deer herd may be on the verge of another increase. Turkeys came through the winter in good shape but the cool, wet nesting season may have taken a toll. Survey results, however are not yet in.



Roger A. Hill

and shelterbelts in areas that had seldom seen deer

in the winter. All wildlife became more visible along roads where it was easier for animals to move around than plowing through chest-deep snow.

What does this translate into for the upcoming hunting seasons? First the good news.

Deer and Wild Turkey

White-tailed deer. Last fall's harvest of 126,000 deer was a record for Iowa in spite of the difficult late-season hunting conditions. Around 220,000 licenses were sold, similar to 1999, but hunters were more successful than usual in most seasons. The percentage of bucks in the harvest stayed at normal levels, indicating there were plenty of deer available (when deer numbers are down, hunters have trouble finding bucks and will often take a doe instead).

In retrospect, the winter did not produce as serious an impact on deer and turkeys as initially feared. Some starvation of both species was verified by DNR biologists, but most were young animals that had the lowest chance of surviving even in a more normal winter. Some does may have

lost fetuses due to stress from cold and lack of food, but a substantial loss of fawns is not expected. Judging by the success of the spring season, it doesn't appear turkeys succumbed in great numbers, either.

There may have been some starvation and reduced fawn production, apparently mostly north of Highway 30, but subsequent deer surveys indicate it was not substantial enough to greatly reduce deer numbers. Spotlight surveys for deer in April were up 40 percent statewide from last year, while the number of deer killed per billion vehicle miles driven on Iowa's highways last year and aerial counts in the winter were about the same. As a result hunters should find as many or more deer than last year in most of the state.

This survey information, coupled with last year's excellent harvest, suggests the deer herd may be on the verge of another increase in numbers. To forestall that from happening, deer seasons were liberalized even further for 2001.

This year, all regular deer season licenses for the youth/disabled, bow, early and late muzzleloader and both shotgun seasons will be valid statewide for any deer. For the first time, every county will have a quota of

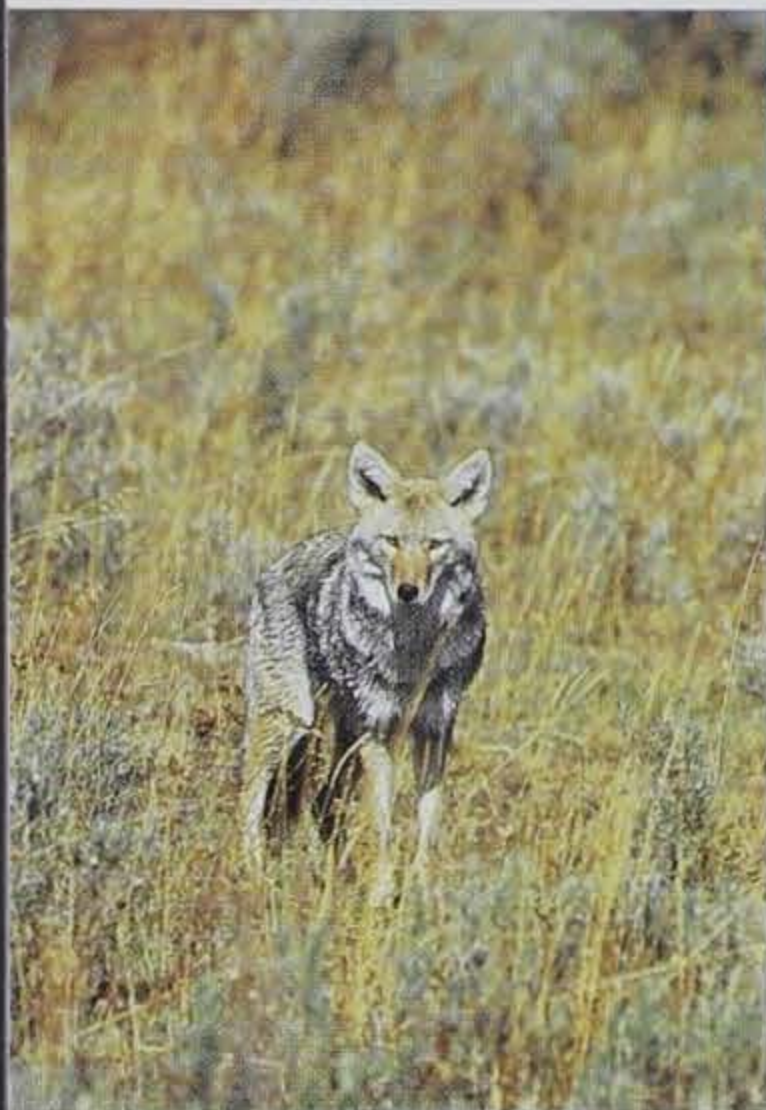


Roger A. Hill

antlerless deer licenses available for the bow, second shotgun, and late muzzleloader seasons. And the special late season in January has been expanded to include 11 southern Iowa counties.

The extra antlerless licenses will increase the take of does and help stabilize or slightly reduce deer numbers. Hunters with any-deer licenses can help this effort by practicing their own "quality deer management" program. Instead of trying to take a buck at all costs and settling for a young deer with a rack that has no trophy value, hunters should take does. This will allow that yearling buck to get bigger and increase the anticipation for next year's hunt. And a mature doe has more meat than a yearling buck anyway.

Two problems continue to plague deer hunting. Relative to the number of participants, shotgun deer season has the highest rate of "accidental" shooting of other hunters. The cause is nearly always a hunter becoming excited and shooting at a deer without recognizing another hunter in the background. This is a preventable



Roger A. Hill



Roger A. Hill

Habitat conditions in Iowa and farther north will determine the success of this year's waterfowl season. Waterfowl populations, in general, are at good levels.

situation if all hunters in the party stay calm, stay where they are supposed to be and no one shoots unless they know where all other hunters are standing.

The second problem is trespassing. No one has the right to hunt on someone else's property without the express permission of the person in control of the land. Nothing ruins a hunt or damages the image of hunters quicker than an angry confrontation with a landowner. This can be avoided by scouting in advance of the season to get permission from the landowner *and* the tenant, if there is a tenant farming the land. And make sure all members of the hunting party know the exact boundaries of the land where access has been granted.

Wild turkey. Fall turkey hunting appeals to a far smaller group of hunters than spring hunting. Less than 15,000 hunters usually participate and the harvest is usually under 5,000. Final harvest figures for 2000 were not available when this article was written.

Since turkeys did not apparently suffer undue losses over the winter, the outlook for this fall will depend almost entirely on the outcome of the nesting season. Turkeys have the

same problems with wet, cold weather in May and June that affects reproduction of all ground nesting birds. Results of this year's brood survey will not be known until early September so a prediction is hard to make other than it will probably not be a banner year for production.

Turkey populations all across Iowa were in good shape going in to the nesting season, so there should be plenty of birds for shotgun and archery hunters to pursue. If production turns out to be poor, however, the lack of young birds may make hunting more difficult. Young turkeys in their first fall are far less wary and easier to call than older birds.

Waterfowl and Furbearers

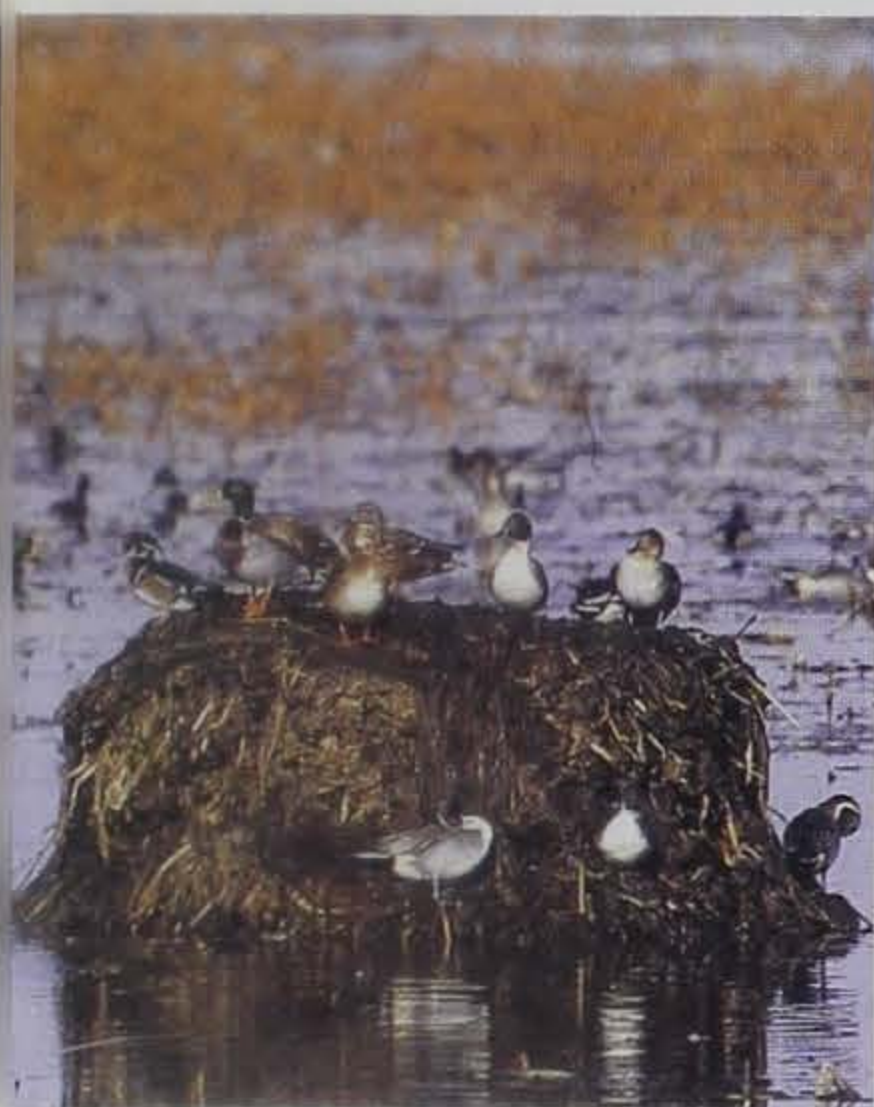
Waterfowl. Last fall's waterfowl season bounced back from a sub-par year in 1999. The migration of ducks and geese occurred in a more timely manner last year after several years of unseasonable movements that managed to miss most of the state. The number of hunters increased slightly to 29,343, but was still 16 percent below the long-term average. The duck harvest increased 29 percent to 227,000 ducks, right at the long-term average. The take of Canada geese set an all-time record of 67,000, double the previous year and nearly six times the

long-term average. The only downturn was in the spring snow goose season. The long winter kept snow geese from migrating through Iowa until it was time for them to move further north, resulting in less hunting opportunities than last year. The snow goose harvest fell 95 percent as a result.

This spring, wetland conditions and duck breeding populations were very good in the eastern half of the prairie pothole region, which produces many of the ducks Iowa waterfowlers see. Conditions in the western half were very poor, however, and overall breeding populations of several species of ducks will be slightly below last year. Most populations are still very near the long-term average.

In Iowa, the heavy spring precipitation flooded wetlands and nearby fields, allowing ducks to spread out and hopefully increase their reproductive effort. Shallow, seasonally flooded wetlands are especially favorable to blue-winged teal and wood ducks that prefer them for feeding on insects.

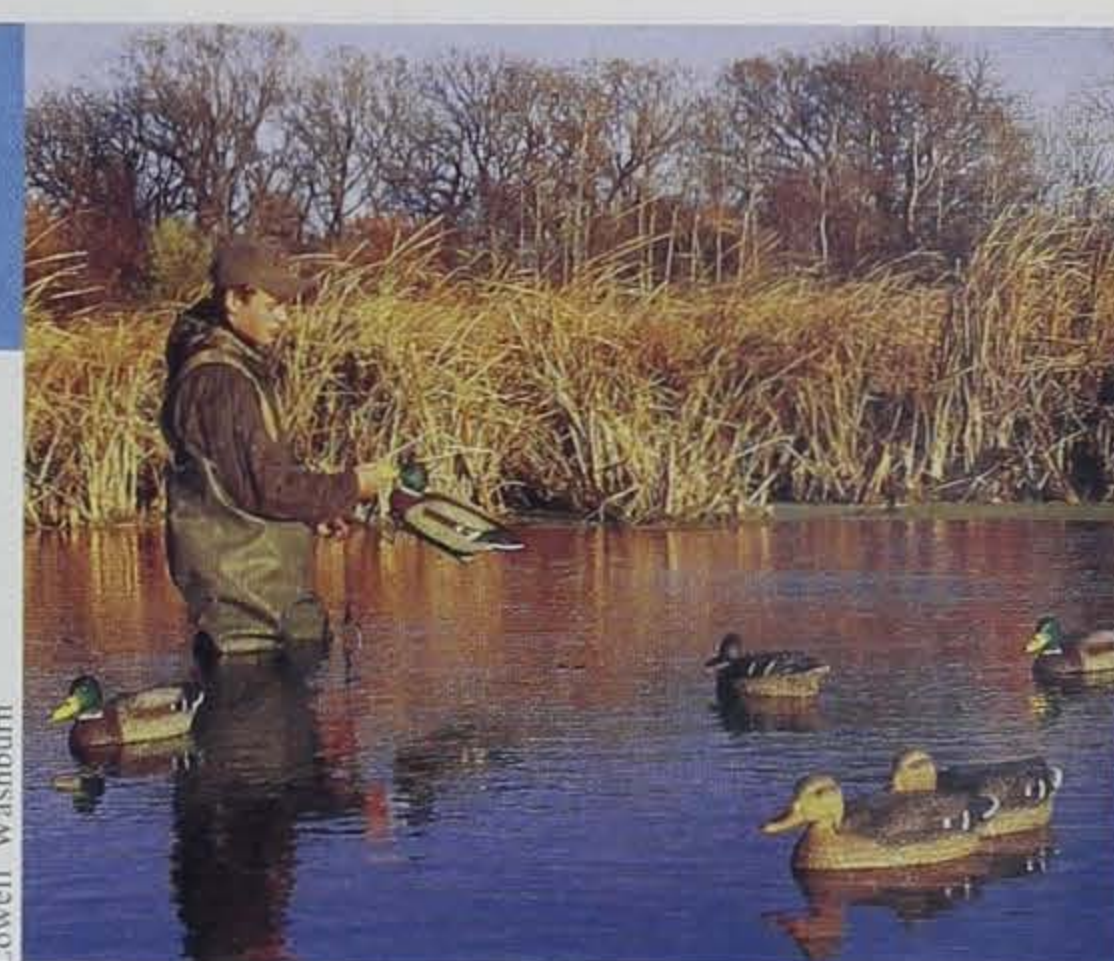
Flooding produced a mixed bag for nesting giant Canada geese. There will be reduced production of gosling along the Mississippi and other rivers but good production from southern Iowa farm ponds that were filled to the brim. Overall, the population is not changed but there may be noticeable differences regionally.



Roger A. Hill



Roger A. Hill



Lowell Washburn

With waterfowl populations at good levels, the success of this year's waterfowl season will depend mostly on habitat conditions in Iowa and farther north. Most wetlands in northern Iowa have filled with recent rains and will remain in good condition as long as precipitation stays normal during the rest of the summer and early fall. Conditions on the Mississippi River will likely be poor. Water was high for so long this summer that normal vegetation is unlikely to develop. Water levels are falling on the Missouri River but conditions could still be good if they are replenished by late summer rains. Rathbun, Red Rock, Coralville and Saylorville reservoirs were high into midsummer, but water dropped soon enough for aerial seeding of millet. If a killing frost does not come too early and late summer rains bring up water levels, conditions could be adequate there.

This year's waterfowl hunting season regulations are about the same as last year with two exceptions. Sub-par production of giant Canadas in northern Iowa and very heavy harvest of local birds during the early Canada goose season in September has greatly

reduced breeding populations of giants in the northern part of Iowa's prairie pothole region. The early Canada goose season was eliminated this year to protect locally breeding Canadas until populations have a chance to rebuild. The two days will be added to the regular Canada goose season that opens in late September.

And the season on canvasback ducks has been shortened to just 20 days due to poor production. Canvasbacks may be taken in late October and early November in the north duck zone and for the last 20 days of the season in the south duck zone.

Furbearers. The harsh weather of last winter made for difficult hunting and trapping conditions for furbearers and the harvest was reduced as a result. Poor fur prices continue to discourage much interest in fur harvesting. Just 15,000 furharvester licenses were sold last year, nearly the lowest on record.

Fur harvest levels do not reflect the fact that populations of most furbearers, except red fox and muskrat, are very high. Red fox continue to be suppressed by mange. Most northern Iowa marshes have had high water levels the last few years and vegetation has died out to the point that muskrat numbers have been reduced. The next dry cycle

that replenishes vegetation will cure the problem.

In terms of the availability of animals, the outlook for fur takers this fall is very good. The fur market shows signs of some improvement, but a return to the high prices of the 1980s is unlikely any time soon. So the few fur takers that pursue their sport for the recreation should have an excellent season with little competition from other trappers or hunters.

Rabbits and Squirrels

Cottontail rabbits, and gray and fox squirrels continue to provide the state's most under-used hunting opportunities. Just 43,000 rabbit hunters and 34,000 squirrel hunters took to the fields and woodlands last year, the fewest on record for both groups.

Harvests were also low in spite of the fact all three species are relatively abundant. The take of 351,000 rabbits was just at the long-term average and the best in a decade. The 217,000 squirrels taken was the lowest on record and nearly 40 percent below the long-term average.

Hunting for small game animals seems to be on the decline for sociological reasons rather than lack of opportunity. Rabbit and squirrel hunting used to



Roger A. Hill

be a young nimrod's introduction to hunting. With fewer hunters entering the sport at a young age, the interest in squirrel and rabbit hunting has declined dramatically. But excellent hunting opportunities exist for those who choose to participate.

Upland Game Birds

Last year's hunting season produced some interesting results that have implications for the future of upland game bird hunting. Just 135,000 Iowans hunted pheasants in 2000, the lowest ever reported and 28 percent below the long-term average. The number of nonresidents hunting pheasants also declined to just 33,000, the lowest since 1987. The loss of CRP fields and generally low pheasant populations in much of the state are probably to blame. Without CRP, most of the hunting opportunities on private land were lost all across the northern and western parts of the state.

The reduction in hunter numbers has economic as well as recreational impacts. The U.S. Fish and Wildlife Service estimates nonresident pheasant hunters spend an average of \$240 while in Iowa, and that residents spend



Roger A. Hill

\$188 annually on hunting expenses. This translates to a loss of revenue last fall of \$8 million. Most of this money would have been spent for food, lodging, gas and hunting equipment in small, rural towns where the need for additional economic activity is the greatest.

The harvest of bobwhite quail fell to 131,000 birds, the third lowest on record. All of the four lowest harvest years have occurred since 1996, indicating quail populations are on a declining trend. Much of the state's remaining quail range lies in the southern three tiers of counties. Most of this area has had nearly a decade of wet and cold nesting seasons when other regions had at least some good years mixed in with the bad. Pheasant and quail populations in southern Iowa are far below long-term average levels as a result.

Gray (Hungarian) partridge are basically restricted to the north half of Iowa, but are also at very low levels. Partridge are historically birds of the arid prairies and find even an average Iowa spring too wet for good production. Hunters took just 19,000 partridge in 2000, about average for the past decade but far below the 100,000 or so taken in the drought years of the late 1980s.

Huntible populations of ruffed grouse are restricted to just a few

More information on hunting regulations, season dates, bag limits, license quotas, hunting zones and other details can be found on the following pages.

counties in northeast Iowa. The rough terrain and low, scattered populations present a hunting challenge that appeals to just a few hunters. The harvest of 500 birds last season was the lowest on record, but seldom have as many as 5,000 birds been taken in the last decade.

The story for upland game bird populations in 2001 will likely be different than deer and turkeys. The powdery snow in December made it difficult for pheasants, quail and gray partridge to move from cover to food. Birds were seen flying from roosting sites to crop fields and back because they literally could not walk through the snow. This undoubtedly made them more vulnerable to predators. The crusted snow of late winter made it difficult for them to dig through for food.

Ruffed grouse were probably affected the least. They survive best in winters with deep, soft snow. They prefer to burrow under the snow for warmth and to escape the notice of predators. They feed mostly on tree and shrub buds in the winter and less in crop fields. Until the snow became crusted, conditions were nearly ideal for ruffed grouse survival.

DNR staff believe the final impact of losing several hundred thousand acres in Conservation Reserve Program fields may finally be felt by pheasant hunters this fall. Because of mild winters in the years prior to 2001, pheasants have been able to survive in road ditches and fencerows in areas that formerly had CRP fields. Birds



Roger A. Hill

trapped in those marginal habitats surely suffered more last winter than birds in areas where secure winter cover remained. This may be the final year of meltdown in pheasant numbers as a result of the habitat loss. Pheasant populations in some areas will probably be back to pre-CRP levels.

In southern Iowa, where pheasant and quail numbers have been below normal for several years, 2000 looked like the year the corner had finally been turned for the better. Early-season hunters reported seeing more quail coveys and more pheasants than in recent years. But after the winter ended DNR biologists and conservation officers reported seeing few breeding pheasants, and few whistling bobwhites were heard this spring and the already-low populations may have been set back again.

Final predictions can't be made with confidence until the DNR's August roadside surveys are completed and tabulated. But based on the weather since last year, the best bet is that populations of all upland game birds, except possibly ruffed grouse, will be down from last year. Grouse should be entering the downward phase of their 10-year cycle this year, however, so slightly lower populations might be expected.

Terry W. Little is the wildlife research supervisor for the department in Des Moines.



Lowell Washburn

Venison – Is it Safe to Eat?

Four diseases that potentially can infect white-tailed deer have received much exposure recently in the sporting media:

Chronic Wasting Disease (CWD) affects the central nervous system of cervids (elk and deer). It is closely related to "Mad Cow Disease" reported in Europe. CWD has been found in free-ranging deer or elk herds in the U.S. in northeastern Colorado, southeastern Wyoming, western Nebraska, and captive elk herds in South Dakota, Nebraska, Oklahoma, Montana and Colorado. It is incurable but has never been shown to infect humans.

Bovine tuberculosis (BT) can infect all mammals including humans. An outbreak has occurred in dairy herds and in deer and elk in northeastern Michigan. Wisconsin, Illinois and Indiana have tested deer but not found any infected with BT. Iowa has been declared a BT-free state since 1986. BT is a bacterial infection and can be treated with antibiotics.

Foot and Mouth Disease (FMD) occurs naturally in most of the world outside of North America and can infect cloven-hoofed mammals. Recent outbreaks have

occurred in Europe but not in the United States. FMD is a viral disease that runs its course in a few weeks and is very unlikely to infect humans.

Hemorrhagic Disease (HD) is a virus that occurs mostly in southeastern U.S. with sporadic outbreaks in the Midwest. It is infective to a wide range of wild and domestic ruminants, but not humans.

It is extremely unlikely that BT, CWD, FMD or HD could be contracted by eating venison from Iowa deer. For concerned hunters, the best preventive measures for all four diseases are:

Avoid shooting obviously sick or emaciated deer.

Wear latex or rubber gloves while field dressing to reduce the chance of contracting any disease.

Avoid eating the brain, spinal cord or lymph nodes.

Thoroughly cook all meat or meat products like sausage or jerky.

Any dead deer that is obviously emaciated or with abnormal lesions or growths on the internal organs or chest cavity should be reported to a conservation officer.

Iowa 2001-2002 Hunting Seasons and Bag Limits

SPECIES	SEASON	SHOOTING HOURS	BAG LIMITS	
			DAILY	POSSESSION
Youth Rooster Pheasant (age 15 or younger)*+	Oct. 20-21	8:00 a.m. to 4:30 p.m.	1	2
Rooster Pheasant	Oct. 27 - Jan. 10, 2002		3	12
Bobwhite Quail	Oct. 27 - Jan. 31, 2002		8	16
Gray Partridge	Oct. 13 - Jan. 31, 2002		8	16
Turkey (Gun)*	Oct. 15 - Nov. 30	One-half Hour Before Sunrise to Sunset	One Turkey Per License	One Turkey Per License
Turkey (Bow Only)*	Oct. 1 - Nov. 30 and Dec. 17 - Jan. 10, 2002	One-half Hour Before Sunrise to One-half Hour After Sunset		
Deer (Bow)	Oct. 1 - Nov. 30 and Dec. 17 - Jan. 10, 2002		One Deer Per License	One Deer Per License
Deer (Muzzleloader)	Oct. 13 - Oct. 21* (early) or Dec. 17 - Jan. 10, 2002 (late)			
Deer -- Youth (age 12-15) and Severely Disabled	Sept. 22 - Oct. 7			
Deer (Shotgun)	Dec. 1 - 5 (first) or Dec. 8 - 16 (second)		Sunrise to Sunset	
Ruffed Grouse	Oct. 6 - Jan. 31, 2002	3		6
Rabbit (Cottontail)	Sept. 1 - Feb. 28, 2002	10		20
Rabbit (Jack)	Oct. 27 - Dec. 1	2		4
Squirrel (Fox and Gray)	Sept. 1 - Jan. 31, 2002	None	6	12
Groundhog	June. 15 - Oct. 31		None	
Crow	Oct. 15 - Nov. 30 and Jan. 14 - March 31, 2002			
Pigeon**	Oct. 1 - March 31, 2002			
Raccoon and Opossum	Nov. 3 - Jan. 31, 2002	None	(Open 8 a.m. First Day Only)	
Fox (Red and Gray)	Nov. 3 - Jan. 31, 2002	None		
Coyote	Continuous Open Season	None		

* Residents Only.

** Within 100 yards of buildings and bridges, pigeons may be taken year round.

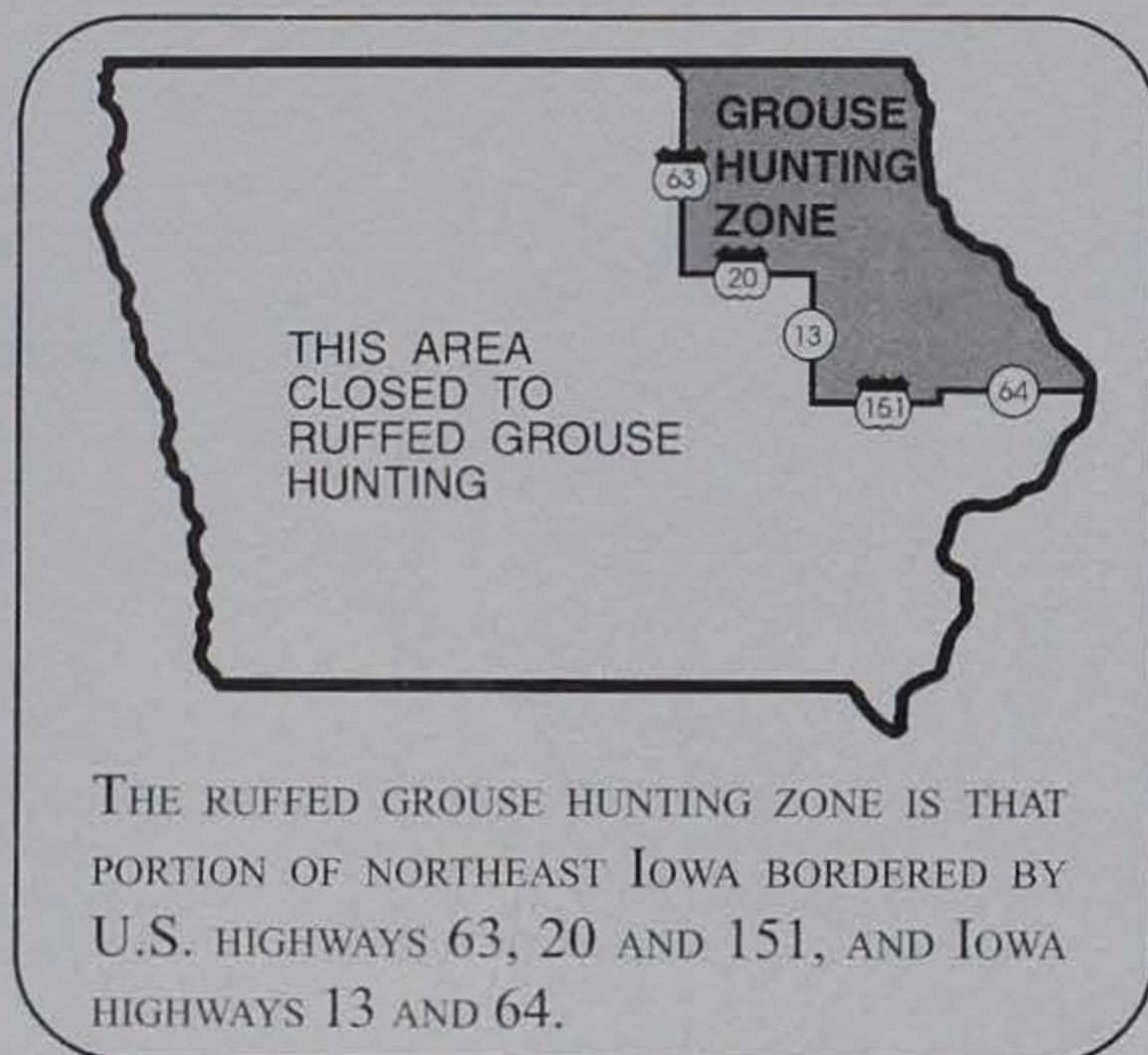
+ See regulations for complete requirements

2001-2002 TRAPPING SEASON

SPECIES	OPENING	CLOSING
Mink, Muskrat*, Raccoon, Weasel, Striped Skunk, Bad- ger, Opossum, Fox (Red and Gray), Coyote	Nov. 3, 2001	Jan. 31, 2002
Beaver	Nov. 3, 2001	April 15, 2002
Civet Cat (Spotted Skunk), Bobcat and Otter	Continuous Closed Season	
Groundhog	June 15, 2001	Oct. 31, 2001

ALL FURBEARER SEASONS OPEN AT 8 A.M. ON THE OPENING DATE. THERE ARE NO DAILY BAG OR POSSESSION LIMITS

*SELECTED AREAS MAY BE ESTABLISHED IN FEBRUARY FOR MUSKRAT TRAPPING ONLY.



2001-2002 Hunting Licenses and Fees

RESIDENT

Resident Hunting	\$13.00
Lifetime Combination (disabled military veteran or P.O.W.)	\$31.00
Lifetime Hunting License (65 years of age or older)	\$51.00
Deer License	\$26.00
Turkey License	\$23.00
Fur Harvester License	
Resident age 16 and older	\$21.00
Resident under age 16	\$6.00

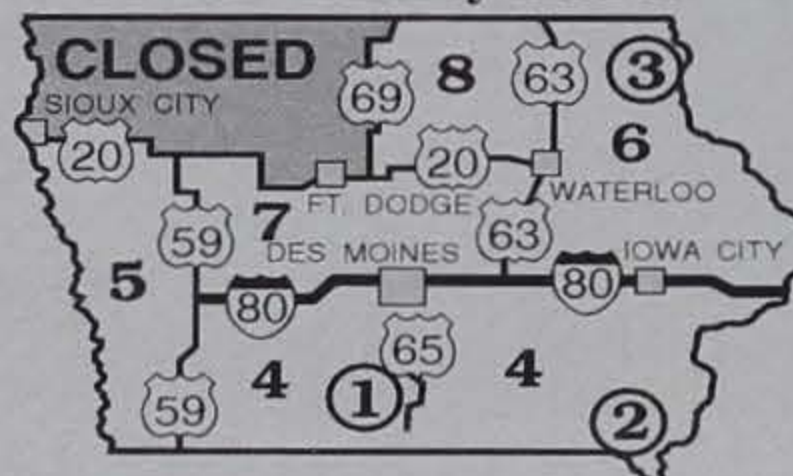
Wildlife Habitat Fee	\$6.00
Migratory Game Bird Fee	\$6.00

Annual free Fishing or Combined Hunting and Fishing licenses are available for low income 65 or older and low income permanently disabled. Call 515/281-8688 for information/qualifications.

NONRESIDENT

Nonresident Hunting Preserve	\$6.00	
Nonresident Hunting (18-years-old or older))		\$61.00
Nonresident Hunting (under 18)	\$26.00	
Nonresident Fur Harvester	\$181.00	
Wildlife Habitat Fee	\$6.00	
Migratory Game Bird Fee	\$6.00	
Nonresident Deer License	\$151.00	
Nonresident Turkey License	\$76.00	

2001 Fall Turkey Zones



Fall turkey season is closed to nonresidents in 2001.

ZONE 1 is all units of Stephens State Forest west of U.S. Highway 65 in Lucas and Clarke counties.

ZONE 2 is all units of Shimek State Forest in Lee and Van Buren counties.

ZONE 3 is units of Yellow River in Allamakee County.

BOW-ONLY fall turkey licenses are valid statewide.

FINAL 2001-2002 MIGRATORY GAME BIRD SEASONS AND BAG LIMITS

STATEWIDE		
Ducks (excluding canvasbacks), Mergansers and Coots	Sept. 22-26 Oct. 13 - Dec. 6	
Youth Waterfowl Hunting Days	Oct. 6-7	
Light Geese (snow [both white and blue phase] and Ross' geese)	Sept. 29 - Jan. 13, 2002 Feb. 2 - April 15, 2002	
Woodcock	Oct. 6 - Nov. 19	
Snipe	Sept. 1 - Nov. 30	
Rail (Sora and Virginia)	Sept. 1 - Nov. 9	
NORTH ZONE		SOUTH ZONE
Canada, White-fronted and Brant geese	Sept. 29 - Dec. 7	Sept. 29 - Oct. 21 Nov. 10 - Dec. 26
Canvasbacks	Oct. 27 - Nov. 15	Nov. 17 - Dec. 6

Shooting Hours: One-half hour before sunrise to sunset for all species except woodcock, which is sunrise to sunset.

Daily Bag and Possession Limits:

Ducks: Daily limit is 6, including no more than 4 mallards (of which no more than 2 may be female), 2 wood ducks, 2 redheads, 1 black duck, 1 pintail, and 3 scaup. Possession limit is twice the daily bag limit.

Mergansers: Daily limit is 5, including no more than 1 hooded merganser. Possession limit is twice the daily bag limit.

Coots: Daily limit is 15; possession limit is 30.

Canvasbacks: Daily limit is 1; possession limit is 2.

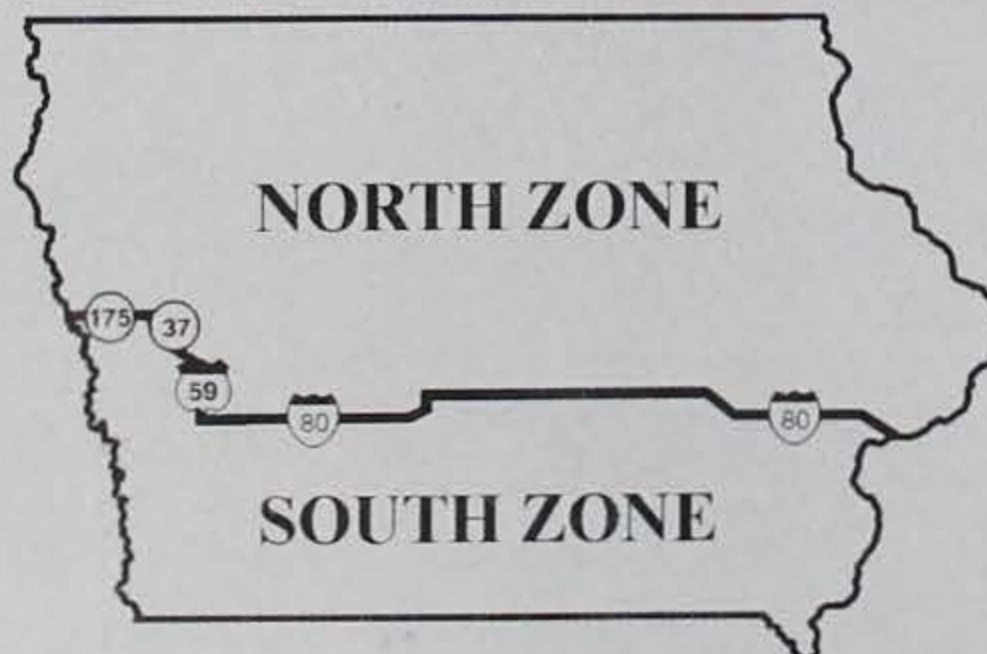
Geese: Daily limit for Canada geese is 2. For other geese, the daily limit is 2 white-fronted, 2 brant and 20 light geese (both white and blue phase snow geese and Ross' geese). Possession limit is twice the daily bag limit, except for light geese for which there is no possession limit.

Woodcock: Daily limit is 3; possession limit is 6.

Snipe: Daily limit is 8; possession limit is 16.

Rail (Sora and Virginia): Daily limit is 12; possession limit is 24.

Youth Waterfowl Hunting Days: Shooting hours and daily bag limits will conform to those set for the regular waterfowl seasons.



Waterfowl zone description. The state will be divided by a line beginning on the Nebraska-Iowa border at State Highway 175, east to State Highway 37, south-east to U.S. Highway 59, south to I-80 and along I-80 east to the Iowa-Illinois border.

NONTOXIC SHOT ONLY

You cannot have in your possession any shotshell loaded with anything other than nontoxic shot approved by the U. S. Fish and Wildlife Service (USFWS) when hunting any migratory game birds, except woodcock, on any land or waters of the state of Iowa. Approved nontoxic shot must be used to hunt all game animals or furbearers, except deer and wild turkey, on selected public hunting areas in north-central and northwest Iowa. See the "2001 Hunting, Fishing and Trapping Regulations" for details. Nontoxic shot currently approved by the USFWS includes: **STEEL, BISMUTH-TIN, TUNGSTEN-IRON, TUNGSTEN-POLYMER, TUNGSTEN-MATRIX** and **TUNGSTEN-NICKEL-IRON**. The USFWS has approved **TIN** shot for 2001, but not for 2002 as of yet.

MIGRATORY GAME BIRD STAMPS AND FEES REQUIRED

If you are 16 years of age or older, you need to pay the **state migratory game bird fee** (\$6) and possess a **federal** (\$15) **migratory waterfowl stamp** (duck stamp) to hunt or take any migratory waterfowl within Iowa. State migratory game bird fees can be paid at any Electronic Licensing System for Iowa (ELSI) sales agent. Federal stamps can be purchased at post offices.

YOUTH WATERFOWL DAYS

Hunters ages 15 or younger may hunt certain waterfowl without a hunting license, federal duck stamp or payment the state habitat or migratory game bird fees during Youth Waterfowl Days, Oct. 6-7, 2001. The youth hunter must be accompanied by an adult 18 years of age or older. The adult must have a hunting license and habitat stamp if normally required to do so to hunt waterfowl, and have paid the state migratory game bird fee. The adult may not hunt ducks but may hunt other game birds if there is an open season. The bag limit is six ducks for the youth hunter only, with the same species restrictions as the regular duck season; two Canada geese and 15 coots. Possession limit is twice the daily bag limit.

The 2001-2002 Upland Game Bird and Waterfowl Seasons and Bag Limits can be downloaded from the DNR's Fish and Wildlife website at www.state.ia.us/dnr/fwddiv. Follow the prompts to the upland game bird or waterfowl seasons and bag limits pages.

Did you shoot a
banded duck or goose?

Call

1-800-327-BAND (2263).

Reporting the harvest of banded waterfowl
provides valuable information which helps
sustain populations and hunting for the future.

More information can be found in the following booklets published by the DNR:

Deer and Fall Turkey

2001 Iowa Deer and Fall Turkey Hunting Regulations and License Instructions

Waterfowl, Pheasants, Quail, Partridge and Grouse

2001 Iowa Upland Game, Trapping and Waterfowl Guide

Other General Hunting and Trapping Regulations

Iowa Hunting, Fishing and Trapping Regulations

These booklets are available at all license agents, from DNR offices or on the DNR's website at www.state.ia.us/wildlife/

HIP

(Harvest Information Program)

All migratory game bird hunters must register with the U.S. Fish and Wildlife Service's Harvest Information Program (HIP) each year and carry proof of registration while hunting. Hunters must register in each state they hunt. In Iowa, hunters are automatically registered with HIP upon payment of the state migratory game bird fee. Payment of the fee is indicated on the license, which serves as proof of having registered.

2000

Record Deer Racks

Photos by Roger A. Hill

* New entry into the All-Time Top 10 Racks



BOW, NON-TYPICAL

Minimum Qualifying Score - 155 pts.

Name	City	County	Total	Year	Name	City	County	Total	Year
*Dave Gordon	Waukon	Allamakee	240 4/8	2000	Jason N Nolz	Manchester	Delaware	174 1/8	200
*Larry V Zach	Ankeny	Monroe	237 3/8	2000	Parker Fransen	Strawberry Point	Delaware	173 3/8	200
*Jared L Rebling	Lockridge	Jefferson	221 7/8	2000	Scott Bunnell	Corydon	Wayne	170 3/8	200
Bill Bolinger	Creston	Union	201	1999	Bruce Larsen	Lansing	Allamakee	169	200
Brian Moore	Hamilton	Marion	195	2000	Arthur Henry Newell	Des Moines	Warren	163 2/8	199
Mark Armstrong	Council Bluffs	Fremont	194	2000	Larry Freeman	Runnells	Polk	162 7/8	200
Jerry Bixby	Columbus Junction	Louisa	194	2000	Corey Rupp	Monticello	Jones	162 4/8	200
Paul Whitmore	Webster City	Boone	191 2/8	1980	Craig R Black	Eldridge	Clinton	162 2/8	200
Kelly Snyder	Grimes	Polk	190 2/8	2000	John F Fields	Ely	Johnson	162 1/8	200
Michael L Lauffer	Chapin	Franklin	183	2000	Scott Wedemeier	Amana	Iowa	159 4/8	199
Mitch Hosler	Wauke	Dallas	180 4/8	2000	Jordan Schwarck	Riceville	Mitchell	159 2/8	199
Tim Wallin	Middletown	Des Moines	178 7/8	2000	Cole Vinchattle	Dayton	Webster	158 2/8	199
Chris Groves	Sioux City	Woodbury	177 4/8	2000	Tim Martin	Muscatine	Muscatine	157 4/8	200
Mark Fencl	Solon	Linn	177 1/8	1999	David J Albright	Des Moines	Warren	157	199
George Vasey Jr	Indianola	Warren	177 1/8	1999	Larry B Porter	Saint Ansgar	Worth	157	199
Bernie Schneider	Donnellson	Lee	176 4/8	1998	Chip Pregler	Dubuque	Jackson	156 1/8	200
Rusty Tschantz	Washington	Washington	175 1/8	2000	Bob Mezera	Des Moines	Warren	155 2/8	200

BOW, TYPICAL

Minimum Qualifying Score - 135 pts.

Name	City	County	Taken	Total Score	Year
*Alan Bloodgood	Prole	Warren		190 1/8	2000
Greg Andrews	Corning	Adams		183 7/8	2000
Aaron Smith	Aurelia	Cherokee		182 6/8	2000
Lowdell Taylor	Pella	Marion		178 2/8	1999
Bruce Spiller	Des Moines	Van Buren		176 3/8	2000
Chris Adams	Marengo	Iowa		175 7/8	2000
Dave Kubal	Sioux City	Woodbury		175 6/8	2000
Shawn Morrissey	Fairfield	Jefferson		172 7/8	2000
Mike Wells	Sigourney	Keokuk		172 4/8	2000
David Milby	Des Moines	Warren		171 2/8	2000
James Gibbo	Maynard	Fayette		169 2/8	2000
Douglas Wilkins	Sabula	Lee		169 1/8	2000
Raymond Smith	Clarinda	Page		167 4/8	2000
Klint M Kruse	Donnellson	Lee		167 2/8	2000
Tony M Millius	Marion	Allamakee		166 2/8	2000
Melvin T Digman	Dubuque	Appanoose		165 6/8	2000
Jim Lindsey	Moravia	Appanoose		165 4/8	2000
Lowdell Taylor	Pella	Marion		164 4/8	2000
Thomas J Majors	Pierce City	Ringgold		162 5/8	2000
Brad Baumler	Urbandale	Boone		162 4/8	2000
Dave M Chongo	Ankeny	Clarke		162 3/8	2000
Bret Renshaw	Minburn	Dallas		162 1/8	2000
Rodney P Stahlnecker	Honey Creek	Pottawattamie		161 1/8	2000
Kevin J Lovell	Des Moines	Dallas		160 6/8	1992
Jerry R Mueller	Clinton	Jackson		159 5/8	2000
Jeremy Thayer	Carlisle	Warren		158 2/8	2000
Duane C Baumler	Decorah	Winneshiek		158 2/8	2001
Gerald Springer	Waverly	Bremer		157 7/8	2000
Regi Goodale	Des Moines	Warren		156 6/8	2000
Troy Alan Fenton	Burlington	Henry		156 5/8	2000
Vance Patrilla	Toddville	Benton		156 5/8	2000
Marvin Sutton	Anamosa	Clayton		156 5/8	1999
Rod Selva	Indianola	Warren		156	2000
David Kramer	Monticello	Jones		155 6/8	2000
Daniel J Thole	Strawberry Point	Clayton		155	2000
Jim Hall	Montezuma	Poweshiek		154 7/8	2000
John Sable	Madrid	Clarke		154 6/8	2000
William E Cooper Jr	Des Moines	Wayne		154 5/8	1994
Steve W Jennett	Blockton	Taylor		154 1/8	2000
Tyler Dougherty	Coggon	Linn		153 4/8	2000
Randy J Stults	Otho	Webster		153 4/8	2000
Steve Rinderknecht	Cedar Rapids	Fayette		152 7/8	2000
Jeremy Loving	Carlisle	Warren		152 6/8	2000
Mitch Miller	Independence	Buchanan		152 5/8	2000
Shawn Petersen	Clinton	Clinton		152 5/8	1991
Jason Jones	Granger	Polk		152 2/8	2000
Brian Oordt	Sioux Center	Sioux		151 7/8	2000
Bill Meck	Muscataine	Scott		151 7/8	1992
Randy Feller	Council Bluffs	Pottawattamie		151 7/8	2000
John Janssen	Northwood	Worth		151 6/8	1996
Jason Gritsch	Belle Plaine	Poweshiek		151 6/8	2000
David Mongar	Des Moines	Polk		151 5/8	1996
Michael J Manning	Lansing	Allamakee		151 3/8	2000
Gary L Noftger	Ankeny	Lucas		150 4/8	1996
Brian Searey	Muscataine	Cedar		150 3/8	2000
Don Reese (crossbow)+	Forest City	Hancock		150 2/8	2000
Trepp J Nagel	Fort Dodge	Webster		150 1/8	2000
Chad W Clark	Urbana	Des Moines		150	2000
Mike Lange	Muscataine	Louisa		149 6/8	2000
Steve Wells	Ankeny	Warren		148 7/8	2000
Douglas M Oberfoell	Dubuque	Dubuque		148 6/8	2000
Mike Wise	Red Oak	Mills		148 5/8	2000
Alex Kingery	Newton	Jasper		148 1/8	2000
Jerry Goodmanson	Ireton	Plymouth		147 7/8	2000
Phil Gross	Malcom	Jasper		147 6/8	2000

Name	City	County	Taken	Total Score	Year
Mark Armstrong	Council Bluffs	Fremont		147 4/8	2000
Mike Hershberger	North Liberty	Washington		147	2000
Jason D Slattum	Joice	Worth		146 6/8	2000
Brett Lingle	Sioux City	Woodbury		146 4/8	2000
William Weatherman	Cambridge	Monroe		146 4/8	1999
Jon M Roraff	Durango	Dubuque		146 4/8	1999
Jeff Manderscheid	Maquoketa	Jackson		146 3/8	2000
Fred Breitbach	Gilbertville	Black Hawk		146 2/8	1992
Kyle R Corey	Dow City	Monona		146 2/8	2000
Steve Williams	Des Moines	Clarke		145 7/8	2000
Duane C Baumler	Decorah	Allamakee		144 3/8	2000
Doug Foster	North Liberty	Johnson		144 3/8	2000
Leigh McRoden	Wapello	Louisa		144 2/8	2000
Thomas Stone	Des Moines	Clarke		144 2/8	1996
Shawn Petersen	Clinton	Clinton		144 1/8	1998
Steven Millius	Marion	Linn		144	1998
Lyle Forrest	Hedrick	Jefferson		144	2000
Fred Breitbach	Gilbertville	Bremer		144	2000
Roger Broadbent	West Des Moines	Madison		143 7/8	2000
Brian Paul	Red Oak	Montgomery		143 7/8	2000
Dennis Cavin	Clarinda	Ringgold		143 7/8	2000
Chad Edberg	Mechanicsville	Cedar		143 6/8	2000
Paul R Nettleton	Mason City	Worth		143 4/8	2000
Troy Westram	Stratford	Webster		143 4/8	2000
Jerry Deters	Ames	Story		143 4/8	2000
B S Harvey	Alleman	Polk		143 3/8	
Larry B Porter	Saint Ansgar	Worth		143 2/8	1998
Paul Christian	Sioux Rapids	Clay		143 2/8	2000
Tim Dunphy	Creston	Union		143 1/8	2000
Justin Blake	Clarinda	Page		143 1/8	2000
Pat Keenan	Mason City	Mitchell		143	2000
Jeff Schaefer	Anamosa	Jones		143	2000
Roger Avery	Clarksville	Bremer		142 7/8	2000
Gene Evans	Indianola	Warren		142 3/8	2000
Doug Terry	Des Moines	Polk		142 2/8	2000
Wade Brandt	Manchester	Clayton		142 1/8	2000
Albert Augustin	Colo	Jasper		141 7/8	2000



Name	City	County Taken	Total Score	Year
Tony Wygle	New Hampton	Chickasaw	141 5/8	2000
Scott Klein	Dubuque	Dubuque	141 4/8	2000
Jacob Beck	Sabula	Jackson	141 4/8	1999
Jeff Meyer	Corwith	Wright	141 4/8	1999
Jeff Schneekloth	Cedar Rapids	Poweshiek	141 4/8	2000
Patrick Athen	Tarkio	Fremont	141 1/8	2000
Dave Dicus	Marion	Washington	140 4/8	2000
Don Mealey	Norwalk	Warren	140 2/8	1999
Darle Meyers	Lehigh	Webster	140	2000
Ron Teufel	Cedar Rapids	Wapello	139 6/8	2000
Mark Wallester	Lansing	Allamakee	139 6/8	1999
Larry Freeman	Runnells	Polk	139 6/8	1997
Dwight Hearing	Sioux City	Woodbury	139 3/8	2000
Jim Harbach	Manchester	Delaware	138 7/8	2000
Jason Hosler	Des Moines		138 7/8	2000
Mark Collison	Urbandale	Madison	138 7/8	2000
Tracy Vander Wiel	Williamsburg	Mahaska	138 6/8	2000
David L. Smith	Crescent	Pottawattamie	138 6/8	1998
Darold Berry	Indianola	Warren	138 4/8	2000
Sam Sexton	Decorah	Winneshiek	138 4/8	2000
Kim Heiderscheit	Olin	Jones	138 2/8	2000
Richard M. Blaess	Mabel	Winneshiek	138 2/8	2000
James G. Baker	Red Oak	Montgomery	138 2/8	2000
David G. Baumler	Decorah	Winneshiek	138 1/8	2000
Larry D. Martin	Des Moines	Warren	138	2000
Gary L. Noftger	Ankeny	Lucas	137 7/8	1994
Trevor Rhines	Manchester	Delaware	137 6/8	2000
Jeremy Tobin	Maryville	Taylor	137 6/8	2000
Bill Kula	Cedar Rapids	Johnson	137 2/8	2000
Tim Vondersitt	Calmar	Winneshiek	137 1/8	1998
Armund Bartz	De Soto	Allamakee	137	2000
Tony Johnson	Glenwood	Mills	137	1997
Gary Moeller	Wilton	Muscatine	136 7/8	1999
Jodi Edmundson	Ida Grove	Ida	136 7/8	2000
John W. DeSalme Sr.	Solon	Johnson	136 6/8	1998
Ron R. Turner	Dysart	Tama	136 6/8	2000
Cohen Johnson	Harlan	Shelby	136 6/8	1999
Shannon Shepard	Nichols	Van Buren	136 6/8	2000
Terry Hinegardner	Montour	Tama	136 5/8	1999
Greg Kubitz	Dubuque	Dubuque	136 4/8	2000
Curt Gear	West Des Moines	Madison	136 3/8	2000
Albert Sindt	Blue Grass	Appanoose	136 2/8	2000
Steve Claude	Woolstock	Wright	136 2/8	2000
Brian Williams	Marshalltown	Marshall	136 2/8	2000
Mike Heuck	Everly	Clay	136 1/8	2000
Jerry William Culbertson	Storm Lake	O'Brien	135 6/8	2000
Loren D. Miller	Lansing	Allamakee	135 5/8	2000
Gary Stokes	Cedar Rapids	Johnson	135 5/8	2000
Ron Bryan	Le Grand	Marshall	135 5/8	1998
Larry B. Porter	Saint Ansgar	Worth	135 4/8	1996
Tim Wallin	Middletown	Des Moines	135 1/8	1999
Jeff Miller	Menomonee Falls	Allamakee	135	2000

+crossbows are legal weapons for qualifying hunters

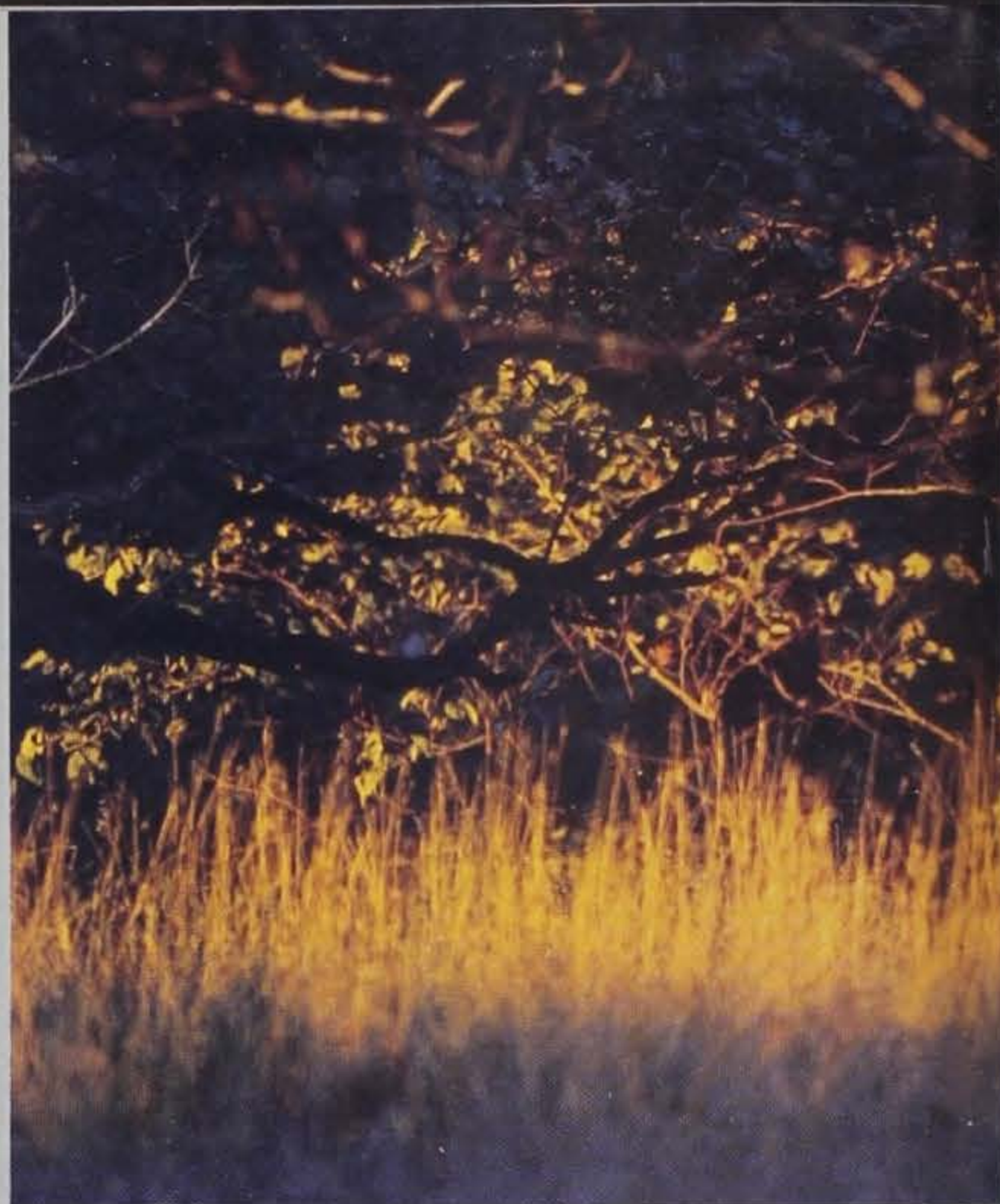
PISTOL, TYPICAL

Minimum Qualifying Score - 150 pts

Name	City	County Taken	Total Score	Year
*Kendal Pommer	Otho	Webster	159 4/8	2000
*Darl Meyer	Lehigh	Webster	157 3/8	2000

PISTOL, TYPICAL

Minimum Qualifying Score - 170 pts
(No entries)



MUZZLELOADER, NON-TYPICAL

Minimum Qualifying Score - 170 pts.

Name	City	County Taken	Total Score	Year
*Richard Muff	Clarinda	Taylor	214 3/8	2000
*Alan Funk	Scotch Grove	Van Buren	209 5/8	2000
Mike Urban	Cherokee	Cherokee	174 4/8	2000
Mitch Roland	Cedar Rapids	Linn	170 7/8	2000

MUZZLELOADER, TYPICAL

Minimum Qualifying Score - 150 pts.

Name	City	County Taken	Total Score	Year
*Clark Corbin	Minneota	Crawford	178 3/8	2000
Orville J. Morris	Cedar Falls	Fayette	165 7/8	2001
Mike Hertges	Waterloo	Clayton	165 5/8	2000
Roger A. Erickson	Wadena	Fayette	165 2/8	2000
Terry Graham	Sidney	Fremont	159 7/8	2000
Cathy M. Hines	Lansing	Allamakee	157 7/8	2000
John Bakley	Osceola	Clarke	156 4/8	1997
Dustin Schott	Arlington	Fayette	155	2000
Joe Henderson	Des Moines	Warren	154 4/8	1996
Casey J. Hinderman	Dubuque	Dubuque	153 7/8	2000
Brian Koldenhoven	Sanborn	Lyon	153	2000
Mike Leach	Dubuque	Jackson	152 7/8	2000
Jeremiah Lamb	Oskaloosa	Dallas	150 3/8	2000
Ron W. Hansen	Hampton	Franklin	150 2/8	2001

SHOTGUN, NON-TYPICAL

Minimum Qualifying Score - 170 pts.

Name	City	County Taken	Total Score	Year
*Tony Beck	Milo	Warren	236	2000
Art Wille	Dubuque	Dubuque	228 2/8	2000

SHOTGUN, TYPICAL

Minimum Qualifying Score - 150 pts.

Name	City	County Taken	Total Score	Year
*Michael A Hinzman	Guttenberg	Clayton	200	2000
Cory Van Zante	Lynnville	Jasper	177 4/8	2000
Mike Herrick	Afton	Union	177	2000
Jay D Jensen	Logan	Harrison	176 7/8	2000
Robert M Evans	Osceola	Decatur	176 5/8	2000
Richard Johnson	Lovilia	Monroe	176 2/8	2000
John Shaw	Pella	Wapello	176 2/8	1999
Chuck Bingham	Pleasantville	Marion	176	2000
Kenneth Clark	Afton	Union	175 1/8	2000
Eron Prevo	Bloomfield	Davis	173 7/8	2000
Alan E Troester	Guttenberg	Clayton	173 1/8	2000
John E Wood	Lansing	Allamakee	171 5/8	2000
Jerry Morris	Cedar Rapids	Clayton	170 5/8	1998
Leland Decker	Sigourney	Keokuk	170 5/8	1990
George Eckstrom II	Carlisle	Warren	170 4/8	2000
Mike Sanderson	Bonaparte	Van Buren	170 3/8	2000
Jason Krumm	Grinnell	Jasper	170 1/8	2000
Ron R Cain	Tipton	Cedar	170	1999
Joseph Heinen	Des Moines	Union	170	1999
Matt De Schamp	Garwin	Marshall	169 3/8	2000
Casey Walsh	Lansing	Allamakee	169 2/8	1999
James F Doyle Sr	Manchester	Clayton	168 6/8	1976
Randy Manuel	Swan	Marion	168 3/8	1999
Charles L Gifford	Camanche	Clinton	168 2/8	2000
Jason Thomas	Delta	Keokuk	168 1/8	1998
Brandon Sheehan	Madrid	Iowa	167 6/8	2000
Tom Edle	Danville	Des Moines	167 4/8	1995
Merlin Levien	Donahue	Scott	167	2000
Terry Hammes	Standard	Jefferson	166 6/8	2000
Jerry Eckenrod	Belle Plaine	Des Moines	166 3/8	1996
Doug Birt	Prescott	Adams	166 1/8	1990
Matthew Hahn	Keota	Keokuk	166	1997



Name	City	County Taken	Total Score	Year
T J Smyser	Chariton	Clarke	209 7/8	2000
Brent Cleppe	Belle Plaine	Benton	202 1/8	2000
Patrick N Thompson	Des Moines	Guthrie	201	1996
Bruce Schuttemeier	Spring Grove	Allamakee	200 4/8	2000
Jim Rugeberg	Blue Grass	Jackson	198 5/8	1997
Edwin T Blanchard	New Hartford	Butler	196 6/8	2000
Michael Hughes	Clarinda	Page	196 4/8	1999
David D Sadewasser	Dubuque	Clayton	196 3/8	2000
Joseph D Hoeger	Hopkinton	Delaware	193 4/8	2000
Michael J Manning	Lansing	Allamakee	191 5/8	2000
Kenny Lasley	Grinnell	Wapello	190 3/8	1999
Dave S Brown	Turin	Monona	189 3/8	2000
Jeremy Howard	Carlisle	Warren	188 5/8	2000
Jordan Schwarck	Riceville	Mitchell	188 1/8	1999
Charles Gano	Central City	Linn	187 3/8	2000
Robert Barnett	Salem	Van Buren	186 6/8	1999
Douglas Allen Thomas	Dows	Franklin	181 3/8	2000
Chris Bass	Sac City	Madison	181 1/8	1999
Kim Vickers	Burlington	Des Moines	180 5/8	1994
Paul K Adix	Ogden	Boone	179 2/8	2000
Lon Horbach	Fort Dodge	Clarke	178 5/8	1989
Rick Roberts	Tracy	Van Buren	178 4/8	2000
Larry Forrest	Batavia	Jefferson	178 2/8	1999
Chad Kloubec	Amana	Johnson	177 7/8	2000
Chalon Engle	Ogden	Boone	177 5/8	1990
Marty Lensing	Decorah	Winneshiek	176 6/8	2000
Tim Kendrick	Edgewood	Clayton	174 3/8	2000
Marcus Moulds	Des Moines	Wayne	174 1/8	1999
Jeff Miller	Toddville	Delaware	173 5/8	2000
Randy Siders	Tipton	Cedar	173 3/8	1998
Bruce Moody	Mitchellville	Decatur	171 2/8	1999
Matt Sheets	Indianola	Warren	171	2000
Larry Berg	Ossian	Winneshiek	170 5/8	2000
Charley Smith	Fairfield	Jefferson	170 1/8	2000
Jon Johnson	Des Moines	Dallas	170	1997
Brent Reineke	Coon Rapids	Guthrie	164 1/8	1998

Name	City	County Taken	Total Score	Year
Chad McIntosh	Osceola	Clarke	165 7/8	1999
Ken Toms	Council Bluffs	Adams	165 5/8	2000
Darrell Kluck	Center Point	Linn	165 4/8	2000
Bob Kuhlmann	Algona	Kossuth	165 1/8	1993
Chris Montross	Millersburg	Iowa	164 5/8	2000
Jason Helle	Cedar Rapids	Clayton	164 3/8	2000
Kevin Prull	Monticello	Jones	164 1/8	2000
Chad McIntosh	Osceola	Decatur	163 4/8	1999
Ryan Frasher	Cascade	Jones	163	1999
Terry Halder	Pocahontas	Crawford	162 6/8	1995
Kent Worley	Fairfield	Jefferson	162 4/8	1994
Dan Stanberg	Otho	Webster	162 4/8	2000
Bryan H Brooks	Marion	Clayton	162 1/8	2000
Michelle Busch	Boone	Boone	162	2000
Gary R Frost	Fort Madison	Van Buren	161 7/8	1996
Kurtis Kurschinski	Des Moines	Clarke	161 6/8	2000
Scott Strong	Malcom	Poweshiek	161 3/8	1989
Rod Nefzger	Earlville	Delaware	161	2000
Rod Smith	Carlisle	Madison	161	2000
Gale R Plymnesser	De Soto	Madison	160 6/8	2000
Rod Exline	Homestead	Iowa	160 5/8	2000
Adam Cebuhar	Grimes	Van Buren	160 5/8	2000
Sterling Benz	Tipton	Polk	160 3/8	1980
Aaron L Kessler	Solon	Johnson	160 2/8	1999
Ed Delaney	Pleasant Hill	Warren	160 1/8	2000
Bill Neunsinger	Cedar Falls	Wayne	159 5/8	2000
Bill Wixom	Salem	Van Buren	159 3/8	1990
Terry L Meyer	Postville	Allamakee	159 2/8	1995
Merlin Pierschbacher	Chariton	Lucas	159	2000
Ethan Vorhes	Marble Rock	Floyd	158 6/8	2000
Jeremy Knock	Allison	Butler	158 6/8	2000
Garry G Brown	Charles City	Floyd	158 5/8	1999
Brad Mahoney	Cedar Rapids	Allamakee	158 4/8	1999
Jim Evans	Fruitland	Louisa	158 2/8	2000
Mark Volesky	Newhall	Benton	158 2/8	1998
Jason Howe	Waukon	Allamakee	158 1/8	1999
Daryl Coffin	Newton	Van Buren	157 7/8	1999
Pat Norton	Clarksville	Bremer	157 6/8	1999
Francis Carnahan	Sutherland	O'Brien	157 5/8	2000
Jerry Middleswart	Indianola	Warren	157 4/8	2000
Steve Hardeman	Grinnell	Poweshiek	157 2/8	1999
Roger Cadwell	Sioux City	Plymouth	157 1/8	2000

Name	City	County Taken	Total Score	Year
Rick Orme	Northboro	Page	157	2000
Tim Cummings	Clermont	Fayette	156 2/8	2000
Jim Krousie	Central City	Winneshiek	156 1/8	2000
Cory Van Zante	Lynnville	Jasper	156 1/8	1996
James Norris	Diagonal	Ringgold	156	1998
James L Corkery	Cedar Rapids	Clayton	155 7/8	2000
Mark Delever	Grand Mound	Clinton	155 6/8	2000
Tom Wheeler	Clarinda	Adams	155 6/8	1999
Robert Kluges	Milo	Lucas	155 5/8	1999
Chuck Cornelius	Bellevue	Jackson	155 1/8	2000
Ron Pecinovsky	Calmar	Howard	155 1/8	2000
Dennis Cords	Cumberland	Clayton	155	1969
Brian Rubendall	Osceola	Clarke	155	1999
Jeremy Ransom	Truro	Madison	154 6/8	1991
Teresa Smith	Elma	Chickasaw	154 6/8	2000
Mike Moulds	Corydon	Wayne	154 5/8	2000
Scott Varo	Marengo	Lee	154 5/8	1999
Chris Ellis	Des Moines	Madison	154 5/8	1993
Max Heckman	Creston	Taylor	154 4/8	1985
Kelly Schubert	Estherville	Emmet	154 4/8	2000
Karl Lapka	Estherville	Emmet	154 4/8	2000
Brad Melvin	Pella	Taylor	154 2/8	1999
Ed See	Chariton	Lucas	154 2/8	2000
Nick Miller	Des Moines	Union	154 1/8	2000
Rod Marshall	Eddyville	Mahaska	154	2000
Leland Long	Muscataine	Louisa	153 7/8	2000
Kent Harper	Des Moines	Page	153 7/8	1999
Tracy Berthussen	Sioux City	Tama	153 7/8	2000
Jon Horras	Williamsburg	Iowa	153 7/8	2000
Grant V Hillyer	West Burlington	Des Moines	153 7/8	2000
Ron J Cota	Harpers Ferry	Allamakee	153 7/8	2000
Mark Maynard	Castana	Monona	153 5/8	1999
Rod Marshall	Eddyville	Marion	153 5/8	1986
Dennis M Bennett	Norwalk	Clarke	153 5/8	2000
Vernon Carpenter	Boone	Boone	153 3/8	2000
Dan L Douglas	New Hampton	Chickasaw	153 3/8	1997
Phil Detlefsen	Cedar Rapids	Tama	153 2/8	1999
Nick Kerr	Hornick	Woodbury	153	1999
Tom Moss	Winterset	Dallas	153	1998
Brian Gruver	Otho	Webster	152 7/8	1999
Eric O'Connell	Lawler	Fayette	152 7/8	1999
Lyle Alley	Glenwood		152 7/8	2000
Michael R Miller	Corning	Adams	152 6/8	1999
Jeff Olson	Melbourne	Marshall	152 5/8	2000
Bill Meck	Muscataine	Des Moines	152 5/8	1990
Galyn Mitchell	Corning	Taylor	152 4/8	1998
Mark Partlow	Story City	Story	152 4/8	
William Downs	Montour	Marshall	152 4/8	2001
John Tevis	Independence	Buchanan	152 2/8	2000
Keith Carris	Batavia	Washington	152 1/8	1953
Christopher M Rief	Council Bluffs	Mills	151 7/8	2000
Ryan King	Mount Ayr	Ringgold	151 7/8	2000
Robert D Culbertson	Adel	Dallas	151 7/8	1999
Scott Varo	Marengo	Lee	151 7/8	1999
Jay Eide	Mason City	Cerro Gordo	151 6/8	2000
Gerald D Miller	Maquoketa	Jackson	151 4/8	2000
Nick Hansel	West Branch	Clayton	151 3/8	2000
Willie Knipfel	Hampton	Franklin	151 2/8	2000
Lynn Weier	Rockwell	Cerro Gordo	151 2/8	1989
Greg De Brower	Victor	Marion	151 2/8	1976
Wallace R King	Center Point	Van Buren	150 7/8	1998
Delbert Weed	Lenox	Ringgold	150 6/8	1993
Larry Halverson	Marshalltown	Marshall	150 6/8	
Darwin Sherman	Washington	Washington	150 3/8	2000
Cory Mielke	Marion	Allamakee	150 1/8	2000
Zachary Halverson	Lansing	Allamakee	150 1/8	1999
Doug De Meulenaere	Hartwick	Van Buren	150	1997
Theum Baccam	Des Moines	Marion	150	2000
Ron L Bramow	Lawler	Fayette	146 7/8	1999



ALL-TIME TOP 10 RECORD RACKS

SHOTGUN, TYPICAL

Name	City	County	Year	Total Score
Harold Dickman, Sr.	Woodbine	Harrison	1964	200 2/8
*Michael A. Hinzman	Guttenburg	Clayton	2000	200
Wayne A. Bills	Des Moines	Hamilton	1974	199 5/8
Dean Wetzel	Guthrie Center	Guthrie	1998	199 3/8
Kenneth Tilford	Lamoni	Decatur	1985	198 1/8
Michael R. Edle	Danville	Des Moines	1989	196 4/8
George L. Ross	Ottumwa	Wapello	1969	195 1/8
Forest N. Richardson	New Virginia	Warren	1989	194 3/8
W Eugene Ziegrowsky	Washington	Van Buren	1997	192 7/8
John Chase	Glenwood	Mills	1997	192 2/8

SHOTGUN, NON-TYPICAL

Name	City	County	Year	Total Score
Larry Raveling	Emmetsburg	Clay	1973	282
Lyle Spitznogle	Wapello	Louisa	1982	258 2/8
David Mandersheid	Welton	Jackson	1977	256 7/8
Carroll Johnson	Moorhead	Monona	1968	256 2/8
Larry J. Caldwell	Des Moines	Warren	1990	248 6/8
Don Boucher	Albion	Marshall	1961	245 3/8
Carl Wenke	Cedar Rapids	Lee	1972	245
Robert Wonderlich	Oskaloosa	Monroe	1970	244 6/8
Donny Grant	Turin	Monona	1996	240
*Tony Beck	Milo	Warren	2000	236

MUZZLELOADER, TYPICAL

Name	City	County	Year	Total Score
Jerry W. Conover	Sioux City	Monona	1990	182 7/8
Ron Murray	Missouri Valley	Harrison	1998	179 1/8
*Clark Corbin	Minneota	Crawford	2000	178 3/8
John Russell	Blue Grass	Muscatine	1997	172 4/8
Ric Bishop	Eldridge	Keokuk	1997	172 1/8
John S. Cook	Maquoketa	Jones	1997	170 6/8
Bruce L. Hupke	Carlisle	Warren	1994	170 3/8
Patrick G. Burkle	Earlville	Clayton	1990	170 2/8
Ben Puttmann	Washuta	Cherokee	1998	170
Charles Hixson	Chariton	Lucas	1989	170

MUZZLELOADER, NON-TYPICAL

Name	City	County	Year	Total Score
*Richard Muff	Clarinda	Taylor	2000	214 3/8
Mike Moody	Hamburg	Fremont	1990	210 2/8
*Alan Funk	Scotch Grove	Van Buren	2000	209 5/8
Vincent P. Jauron	Harlan	Monona	1990	209 1/8
Daniel Kauffman	Wapello	Louisa	1984	205 3/8
Jeff Tussey	Creston	Union	1995	205
Jeremy Williams	Clarinda	Page	1998	202 5/8
Denny Baum	Ottumwa	Wapello	1990	202 1/8
Mike Garber	Eldon	Wapello	1996	200 6/8
Dean Beyer	Osage	Mitchell	1991	200 5/8

PISTOL, TYPICAL

Name	City	County	Year	Total Score
William H. Fahrenkrog	Davenport	Scott	1998	171 4/8
Dave Hotz	Cedar Rapids	Louisa	1998	161
*Kendal Pommer	Otho	Webster	2000	159 4/8
*Darle Meyers	Lehigh	Webster	2000	157 3/8

PISTOL, NON-TYPICAL

Name	City	County	Year	Total Score
Bob C Garside	Greenfield	Adair	1998	211 5/8
Bill Fahrenkrog	Davenport	Scott	2000	206 3/8
Jim C. DeFosse	Mediapolis	Des Moines	1999	170 2/8

BOW, TYPICAL

Name	City	County	Year	Total Score
Lloyd Goad	Knoxville	Monroe	1962	197 6/8
Dan A. Whalen	Des Moines	Dallas	1999	195 1/8
Robert Miller	Wyoming	Jones	1977	194 2/8
Steven E. Tyer	North Liberty	Johnson	1994	194
Roy Allison	Knoxville	Monroe	1995	193 5/8
Jeffery L. Whisker	Clinton	Scott	1993	191
Richard B. Swin	Des Moines	Polk	1981	190 5/8
*Alan Bloodgood	Prole	Warren	2000	190 1/8
Randy Petersburg	Waukon	Allamakee	1996	189 1/8
Kevin Peterson	Mediapolis	Des Moines	1989	188 1/8

BOW, NON-TYPICAL

Name	City	County	Year	Total Score
*Dave Gordon	Waukon	Allamakee	2000	240 4/8
*Larry V Zach	Ankeny	Monroe	2000	237 3/8
Russ Clarken	Desoto	Dallas	1994	236 7/8
Mike Hobart	Prole	Madison	1993	229 5/8
Terry M. Long	Des Moines	Polk	1995	229 4/8
Jack Schuler Jr.	Indianola	Decatur	1995	227
Jerry M. Monson	Clear Lake	Cerro Gordo	1977	222 1/8
*Jared L Rebling	Lockridge	Jefferson	2000	221 7/8
Ric Porske	Davenport	Scott	1996	221 6/8
David Propst	Duncombe	Webster	1987	219 3/8

Seventh in a series

RESTORING IOWA'S WILDLIFE

Part 2 —
Expanding
Wildlife Diversity

A Brief History of
Wildlife Conservation in
Iowa

by Terry W. Little

Sharply angled snow flakes driven by a stiff January breeze pelted the windshield of DNR employee Art Dodd's pickup as he carefully negotiated the slippery back roads of Shimek State Forest. Save for a solitary deer track, he could see no sign of wildlife movement across the trail in the freshly fallen snow. "Good," he thought, "the blustery weather will keep turkeys high in their roosts longer today."

He parked quietly at the end of the road and set off down a faint hiking trail toward a small clearing. Prepared for a long day, he carried insulated coveralls, a lunch, a Thermos of hot coffee, a 5-gallon bucket and an old car battery. Although it was just past dawn, he approached the clearing cautiously in case his instincts were wrong and turkeys were already there; no sense in alerting them that danger lurked in this secluded opening.

Seeing nothing but an apparent drift of snow and an old fence along one edge of the clearing, he entered and began making preparations for his day. First he brushed away the drift to reveal a 40-foot line of mesh netting



Ron Johnson

During the 1980s, turkeys became a trading tool for other wildlife reintroduction programs. Here, turkeys are trapped using a cannon net.



Ron Johnson

folded carefully and covered with plastic to keep the new snow from freezing it to the ground. Then he brushed away snow in front of the net to expose shelled corn that had been placed there to attract turkeys to the trap site. He added more corn from the bucket, cleared snow from the fence (actually four metal posts that each supported a heavy rocket filled with explosive charges) and checked to see that chains connecting the rockets to the net were not frozen down. He examined splices between wires connecting the rockets to an electrical cable buried under the snow and replaced a few fallen sticks that had been leaned against the posts for camouflage. With all his preparations complete, Dodd headed for his home-for-the-day — a snow-covered blind hidden in the woods about a hundred feet away.

The blind — a 4x4x4-foot plywood cube whose only openings were a small door and peep holes through which he could watch the net site — was anything but comfortable. A chair and a small catalytic heater to keep the near-zero temperatures just bearable were the only furnishings. There was room only for his lunch, the other end of the electric cable and the car battery.

The previous three days had been long and frustrating. Time had dragged by in spite of frequent visits from songbirds, squirrels, several deer and a flock of wild turkeys each day. The weather had been mild for January and the few turkeys that did come to the trap had been wary. One or two young birds would come to the bait and peck away cautiously, but most of each flock would stand away, clucking nervously.

Today was by far the coldest of

the week, however, and his luck improved. At 2:00 p.m., a flock of a dozen turkey hens moved silently up the trail toward the net. Dodd's only warning was a soft purring sound the birds made as they approached from the rear. It was enough to keep him from accidentally bumping the wooden blind and warning the still-wary turkeys that danger was at hand.

Today their former reticence was overcome. Motivated by a need for food to stoke their internal fires, the turkeys moved quickly to the bait and began feeding. When all their heads were down, Dodd touched the ends of the electrical cable to the battery terminals.

It was over in a heartbeat — a loud boom as the rockets exploded simultaneously, followed by the clatter of the net extending to its full 40-foot length over the wildly flushing hens. Though it took less than a second for the net to settle to the ground, two hens were still able to run or fly out from under it and escape. Driven by a primitive instinct to survive, and with reflexes honed by thousands of generations of encounters with predators, their agility was amazing.

Now the waiting was over and the work began. Dodd ran to the net to secure the turkeys still entangled, then went quickly to retrieve his truck. When he returned he carefully extracted the hens from the net, and placed them in individual travel crates. Recovering, refolding and moving the net to a new trap site would have to wait.

Within a half-hour Dodd was on his way to the DNR's wildlife management headquarters at Coralville, to be joined by other DNR

wildlife employees with 40 more turkeys captured at several other sites that day. By 8:00 a.m. the next day, all the birds were loaded on a flatbed truck and on their way to Topeka, Kan., to meet employees of the Kansas Fish, Wildlife and Parks Department for transport to new homes in eastern Kansas. Later that winter of 1980 the Kansas department would return the favor and 53 prairie chickens would be sent to western Iowa's loess hills for eventual release on prairie remnants there.

Thus began two decades of wildlife restoration that would at least partially reverse the loss of wildlife diversity in Iowa that began 130 years earlier.

Expanding Wildlife Diversity

By the late 1970s, the DNR had restored wild turkeys to habitats that had been considered too small and too fragmented to sustain a turkey population. This success convinced a number of states and Canadian provinces to implement their own wild turkey restoration programs.

At the same time, the growth of the National Wild Turkey Federation and its technical committee (comprised of wild turkey program leaders from each state) provided an opportunity for biologists to discuss their successes and failures, and develop new cooperative programs to advance wild turkey restoration nationwide. While the interest in turkey restoration was growing, only a few states had enough wild turkeys within their borders to conduct their own trap and transplant programs.

By the early 1980s nearly 75 percent of Iowa's remaining forest lands had been stocked with turkeys. It would take another 20 years before all of Iowa's scattered timber tracts

Prairie chickens were one of the first species traded for with turkeys. Habitat quality and timing of the releases played a role in reintroduction success.

would receive birds and for populations to peak, but most of the work was done. DNR staff recognized the new interest in turkey restoration nationwide would create a short-term demand for wild-trapped birds as release stock, but that it would last only until other states' restoration programs were completed. So the decision was made to explore other wildlife restoration possibilities, even though shipping turkeys out of Iowa might somewhat slow down completion of our own turkey program. This would prove to be a wise decision.

Wild turkeys would eventually be sent to Kansas for prairie chickens, to South Dakota for sharp-tailed grouse (a close cousin of the prairie chicken), to Michigan and Indiana for ruffed grouse, and to Kentucky for river otters. One three-way trade had Iowa sending turkeys to Michigan, which sent giant Canada geese to Kansas, and Kansas sent prairie chickens to Iowa. Another had Iowa shipping turkeys to Kentucky, which purchased wild-trapped otters from Louisiana and had them shipped to Iowa.

Prairie chicken. The first out-of-state shipment of wild turkeys was the fore-mentioned trade for prairie chickens from Kansas in 1980. The prairie chickens were captured in winter flocks, held in captivity until spring, and released in the loess hills in

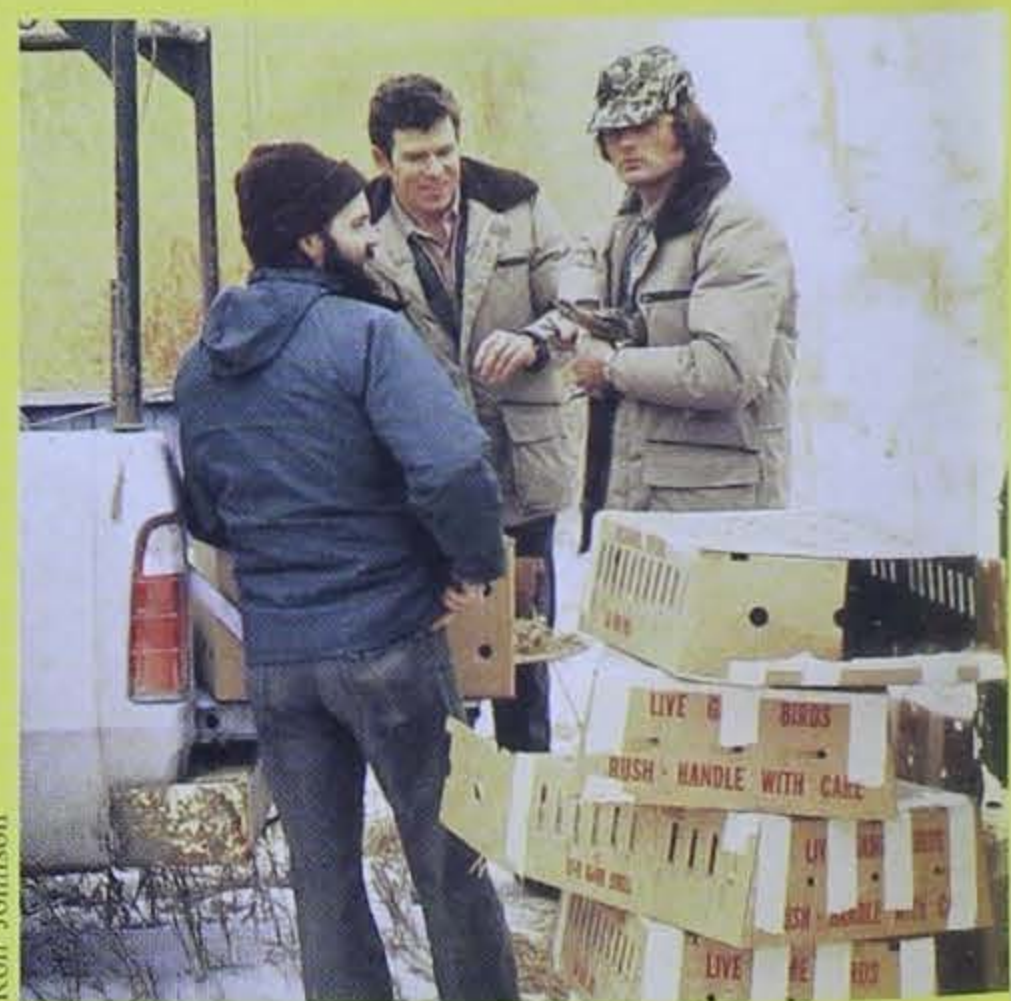


Ty Smedes

Monona County. They survived well in captivity but quickly dispersed from the release site and scattered across the hills. Within just two years sightings had become rare.

Research in Iowa and Nebraska would eventually show that winter-trapped birds often completely dispersed from their new homes and populations were seldom established. Prairie chickens are semi-migratory and can move up to 50 miles from wintering areas to spring mating grounds. It may be that winter-trapped birds have an innate instinct to disperse and simply leave the area, making reproduction unlikely.

Beginning in 1982 all releases of prairie chickens in Iowa were with birds trapped on their "booming"



Ron Johnson

(mating) grounds, or leks, in the spring and immediately transported for release. Chickens were held overnight in boxes at the release site which was either a historic booming ground or an artificial one where the grass had been mowed short, as displaying males prefer. Birds were released at dawn, the most active

time for breeding activity. And by remote control with no humans in sight, a tape of booming sounds was played and prairie chicken decoys were placed on the lek to entice released birds to stay. This gentle release method proved more successful than winter releases.

Habitat quality may also be an issue in the loess hills. In 1980 virtually the only grasslands of any size in Iowa were scattered remnant prairies and pastures in the northern loess hills. These were small tracts by prairie chicken standards and heavily interspersed with forests that had grown up since settlement. The original release failed as did another at the same site in 1982 using spring-trapped birds.

By 1987, however, the habitat picture had changed in southern Iowa. The USDA's Conservation Reserve Program (CRP) had idled hundreds of thousands of acres of crop lands. Most CRP fields were planted to cool-season grasses or a mixture of native grasses that could not be cropped or grazed. This produced a landscape of nearly 60 percent grass that would be idled for at least 10 years, a situation that had not existed in Iowa for a century. To DNR staff, the future of prairie chickens had reached a "do or die" stage. If they could not survive with the CRP in place, there was probably no hope for them in the future.

From 1987 through 1994, 549 prairie chickens were released in Ringgold County on the Ringgold and Mt. Ayr Wildlife Management Areas, at a site near Kellerton, and near Orient in Adair County. This time, the results were more promising. Since 1994, leks have been found in 6 counties (Adair, Adams, Union, Ringgold, Decatur and Wayne) and

individual chickens have been sighted as far north as Warren County and as far east as Monroe County. Not all leks have been active every year, and the numbers of males at each lek have fluctuated from year to year, but several sites have been active every year.

Some of the prairie chickens from the original releases in Ringgold County dispersed a few miles south to Missouri and set up a lek on a traditional site on the Dunn Ranch, a several-thousand-acre cow-calf operation that hosted the last native chickens in northern Missouri. This development encouraged the Missouri Department of Conservation to become active in prairie chicken restoration and they released chickens at several sites just south of the Iowa border in the late 1990s. Between the Missouri and Iowa efforts prairie chickens have returned to the midwestern landscape.

Whether they will continue to thrive will depend on the amount of undisturbed grasslands that can be retained, either by purchasing lands for chickens or through careful adminis-

tration of USDA land set aside programs.

The loess hills have not yet been written off. In 1999 and 2000, 122 sharp-tailed grouse were obtained from South Dakota and released in the northern loess hills. Sharp-tails adapt better to mixed brush-grasslands and may have a better chance to survive there than prairie chickens, which prefer more open landscapes. Time will tell whether this shift in species will work.

Ruffed grouse. By the early 20th century, ruffed grouse had been eliminated from all but a half dozen counties in extreme northeast Iowa. This forest-dwelling grouse survived in early successional timber stands along field edges and where timber harvest or natural disaster created an opening in the forest canopy permitting light to penetrate and shrubs to grow in profusion. Their habitat was not plentiful,

More than 1,200 ruffed grouse were stocked in 13 counties between 1982 and 1990. Some (below) were fitted with transmitters to track their movements.



Ron Johnson

but a stable population that supported a modest hunting season had existed for decades. An attempt to expand their range seemed worthwhile.

Early efforts to move wild-trapped grouse from northeast to southeast and south-central Iowa in the 1960s and 1970s were at least partially successful, so an expanded effort was begun in 1979 by transplanting birds to a site in Jackson County. In the early 1980s the demand for turkeys increased, and turkeys-for-grouse trades with Michigan and Indiana and a pheasants-for-grouse swap with Wisconsin were completed to supplement the few dozen birds that could be caught each year in northeast Iowa.

From 1982 through 1990, 1,243 ruffed grouse were released at 27 sites in 13 counties (Lee, Henry, Des Moines, Decatur, Ringgold, Lucas, Monroe, Boone, Hamilton, Hancock, Bremer, Jones, and Cedar). And in 1999, 15 grouse from northeast Iowa were released in the Amana Colonies in Iowa County. These releases placed grouse in the major blocks of timber habitat in southern Iowa and along forested stretches of the Des Moines, Boone, Cedar and Iowa rivers.

Like prairie chickens, the ultimate result of the ruffed grouse restoration program has yet to be determined. As in northeast Iowa, relatively little

early successional timber exists throughout most of the rest of the state. And these birds are secretive and hard to survey at any time of the year. Grouse, including broods, have been sighted at nearly all of the release sites and it seems that small populations are hanging on at most locales a decade or more after they were stocked. Whether they increase to huntable numbers anywhere outside of northeast Iowa will be determined by forest management activities. They can increase quickly if the forest

canopy is disturbed, but will likely remain at low numbers where timber continues to mature.

At the very least, spring turkey hunters, mushroom hunters and bird watchers can have the pleasure of hearing male grouse drum their courtship songs over much more of Iowa than was possible 20 years ago.

River otters. Once plentiful in Iowa, river otters were eliminated by intense trapping pressure and habitat degradation as agriculture claimed the prairies in the 1860s. By 1950, otters



Ron Johnson



Ron Johnson

Otters were first released in Iowa in 1985. Today, they are considered a very successful reintroduction, inhabiting all of Iowa's major streams and creeks in 90 counties.

could be found only along the Mississippi River and the first few miles of its major tributaries. None were seen along the inland rivers for nearly a century.

The first serious river otter restoration effort began in 1985 when 16 otters from Louisiana were flown to Des Moines and released at Red Rock Reservoir in Marion County. Over the next 15 years, 286 otters were released at 19 sites. Most came from Louisiana in exchange for turkeys, but five sites were stocked with otters purchased by a coalition of conservation groups, including the Black Hawk, Polk and Mitchell county conservation boards and local schools, Iowa Trapper's Association, Furtakers of Iowa, Iowa State University Fisheries and Wildlife Club, and Indian Creek Nature Center. In 1999 and 2000, five sites were stocked with small numbers of otters live-trapped at the older release sites by trappers cooperating with the DNR.

The success of the river otter restoration program rivals that of the wild turkey. Some biologists thought Iowa's rivers were too degraded to support otters or trapping would quickly wipe them out even though otters could not be legally trapped. Both opinions were quickly proven wrong.

Otters took to Iowa's streams and lakes at an amazing pace. In habitats that were vacant, otters have reproduced at a higher rate than was thought possible. Populations increased and spread quickly along all the waterways where releases were made. Today, otters have been sighted along all of our major streams and creeks in 90 counties and reproduction has been verified in 75.

The future for otters seems bright. At the present rate of growth, a limited trapping season seems not too far off

Ron Johnson



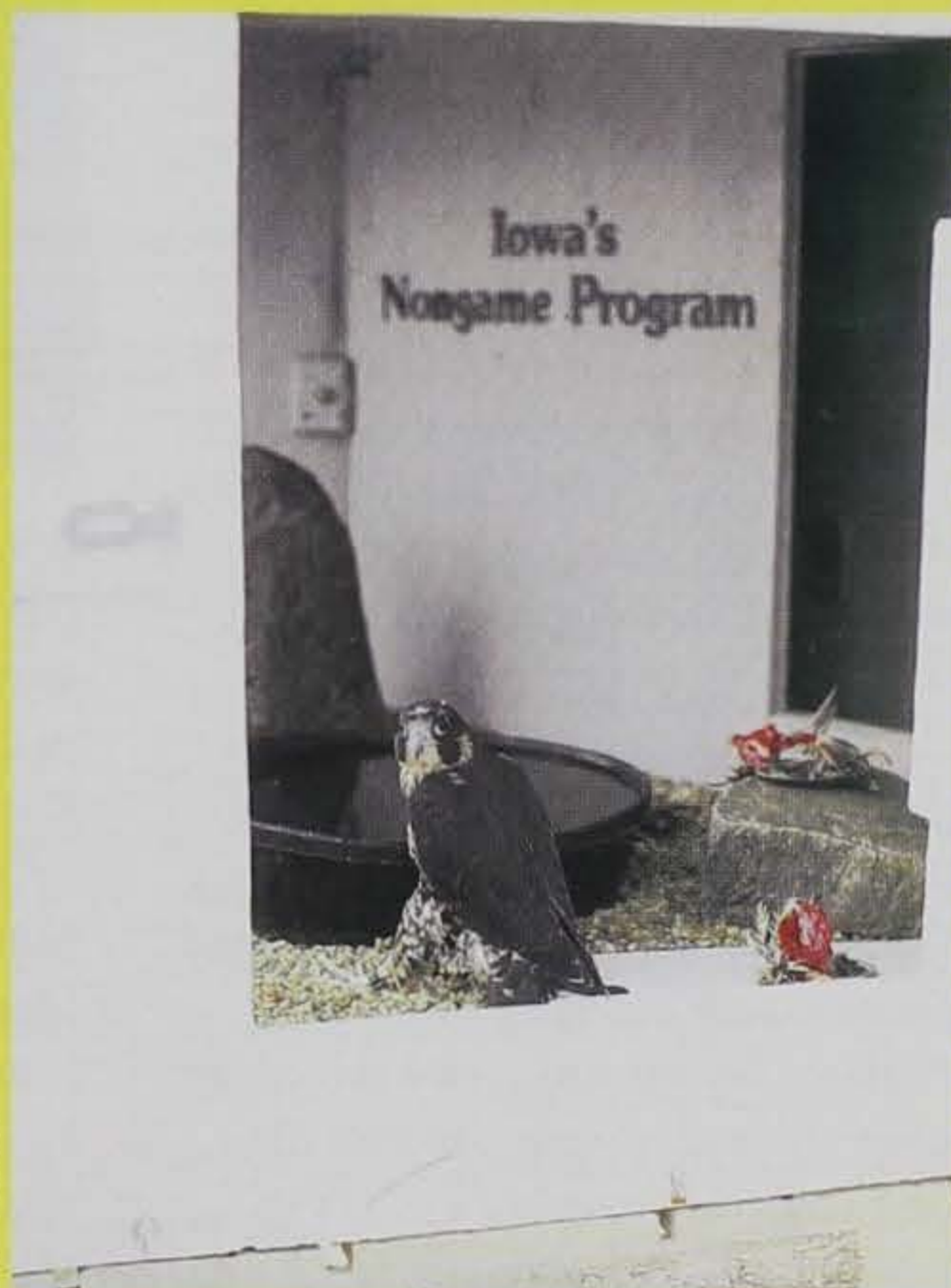
and in fact may be necessary. Without major predators, otters can become pests and clean out certain farm ponds and fish hatcheries.

Traditionally, all of the wildlife conservation efforts of the DNR, including wildlife restoration, have been funded by fees derived from hunters and anglers. In 1981, however, the Fish and Wildlife Division received authorization from the legislature to implement a checkoff on state income tax returns, and the DNR's first official Nongame Wildlife Program (now Wildlife Diversity Program) was formed. The Wildlife Diversity Program has been involved in several projects to restore wildlife using sources of animals other than turkey trades.

Peregrine falcons. Peregrine falcons were eliminated from the eastern United States by 1964, primarily through poisoning from DDT and other organochlorine insecticides. Historically, peregrines nested in Iowa along the Mississippi River bluffs and at a few inland locations. They were never abundant, with perhaps only 30 to 35 pairs along the entire Upper Mississippi.

As both a federal and state

Ron Johnson



The first peregrine release sites were concentrated in urban locations — Des Moines, Cedar Rapids, Muscatine and Mason City. Young peregrines were placed in "hacking" boxes on top of tall buildings, simulating their natural bluff nesting sites.

endangered species, peregrines became the target of a multi-state midwestern restoration effort in the 1980s. Iowa officially joined the effort in 1989. The goal was to have 25 breeding pairs in the upper Midwest by 2000, with five pairs in Iowa.

Since there were no wild eastern peregrines to catch and transplant, the restoration program had to rely on purchasing chicks from breeders who had genetically wild breeding stock. Young peregrines were placed in "hacking" boxes which allowed them to be fed and observed without imprinting on humans. When capable of flight they were released from the hack box and fed artificially at the site until they learned to capture prey on the wing. They were allowed to migrate in the fall with the hope they would return to nest in the spring.

Early efforts at hacking peregrines on their native bluffs along the Mississippi were not encouraging. Great horned owls were plentiful and found young peregrines easy to capture. By the time Iowa joined the program, states were concentrating on hack sites on the tops of tall buildings in urban settings where owls seldom ventured.

From 1989 to 1999, nearly 100 young peregrines were released in Iowa. The first sites concentrated on urban releases in Des Moines, Cedar Rapids, Muscatine and Mason City. Later efforts shifted to establishing pairs in more rural sites along the Upper Iowa River near Bluffton, the Effigy Mounds National Monument near McGregor, and power plant stacks near Louisa and Lansing.

It quickly became apparent that, because of the peregrines incredible mobility, assessing the success or failure of the recovery effort in just



Lowell Washburn

Reintroduction of the trumpeter swan has been slow but steady.

one state did not make sense. Peregrines released in Iowa have shown up in Kansas City, Minneapolis, several other cities in Minnesota, Winnipeg, Manitoba, Topeka, Kan., St. Louis, Mo. and LaCrosse, Wis. One adventurous bird was trapped south of Mexico City, Mexico.

In Iowa, only the Des Moines and Cedar Rapids sites have consistently attracted pairs and produced young from free-flying adults. But the midwestern recovery effort was very successful, producing 87 nesting pairs in the Upper Midwest by 1996, more than three times the original goal. Similar success was attained in other regions and peregrines were de-listed as a federal endangered species in 1998.

Because the only consistently used nests in Iowa are in urban areas, the falcon remains listed as a state



Ken Formanek

endangered species until the goal of five pairs is reached. This will require at least a few nests on the traditional bluff sites in northeast Iowa and effort are concentrated on reestablishing that tradition.

Trumpeter swans. Historically trumpeter swans nested throughout Iowa, but unregulated hunting, egging and wetland drainage quickly took their toll. The last known nest of a trumpeter swan in Iowa was in Hancock



Clay Smith

Three osprey nests were confirmed in Iowa this year.

County in 1883. Their status is equally precarious nationally, with only two known wild populations existing through most of the 20th century.

The DNR's trumpeter swan recovery program began in 1993, with a goal of returning 15 wild nesting pairs by 2003. To accomplish this, swans were obtained from zoos, private propagators and swan projects in other states. Flightless breeding pairs have been established with 50 cooperators who have facilities for holding and rearing swans. Young from these pairs are either allowed to fly free or are held until their second year and released on wetlands to establish homing traditions. More than 100 young swans were produced from these flightless pairs in 2000.

To date, 269 swans have been released at 33 sites in 24 counties. The majority of sites are in the prairie

and nine to unknown causes.

Unlike peregrines, trumpeters are not long-distance migrators. Most of the Iowa-produced swans winter in eastern Kansas and western Missouri with some sightings in Arkansas, Oklahoma and Colorado. These have returned to nest in Iowa and southern Minnesota, although one male swan nests on the southern shore of Lake Ontario.

Progress in achieving the goal of 15 nests by 2003 has been slow but steady. The first nest produced entirely from wild swans was recorded in Dubuque County in 1998, and was repeated in 1999 and 2000. A second nest was located in Winnebago County in 2000 and nine nests have been recorded in 2001. Six of them were successful at hatching young. Swan sightings are no longer rare across most of Iowa.

pothole wetland complexes of north-central and northwest Iowa, but several are scattered along the Mississippi River. Since swans take at least two years to breed, keeping them alive is paramount. So far, there have been 46 known mortalities — 21 to hunters mistaking them for snow geese, 14 to power line collisions, two to malnutrition

Given the delayed breeding efforts of swans and the time it takes to build a homing tradition to Iowa's wetlands, indications are the trumpeter program is on the verge of a breakthrough. The goal of 15 pairs may not be attained by 2003, but should be reached not long after that.

Osprey. Ospreys were never confirmed to historically nest in Iowa, but were probably here given the abundance of lakes and wetlands that dotted the prairies. Their numbers declined nationwide in the mid 20th century, probably due to DDT poisoning and egg shell thinning, but have recovered somewhat since. In the 1980s Tennessee pioneered osprey restoration, soon to be followed by programs in Kansas, Missouri, Illinois, Ohio and Minnesota.

In 1999, an osprey introduction plan was developed by the DNR's Wildlife Diversity Program in cooperation with the Macbride Raptor Project at the University of Iowa. Its goal is to have five pairs of nesting osprey in the state by 2010, which may require the hacking of 100 ospreys over that period.

Young ospreys are purchased from the Minnesota and Wisconsin DNRs, given a physical exam at the University of Minnesota's Raptor Center and moved to Iowa for rearing. Hacking sites are established on platforms on top of telephone poles embedded in a wetland or lake margin. Young ospreys are fed there until they can fly and capture fish, virtually their only food.

So far, 47 ospreys have been hacked at three sites — Coralville Reservoir, Hartmann Reserve in Waterloo-Cedar Falls, and at Saylorsville Reservoir. Three nests were established by free-flying ospreys

The bald eagle (far right, top) may be removed from the federal endangered list soon. Bobcat sightings are increasing. And pioneering sandhill cranes (right) are calling many of Iowa's wildlife management areas home.

in 2001, one at Coraville Reservoir and two in Dickinson County at Cayler Prairie and at Kettleson-Hogsback Wildlife Management Area (WMA). This early success gives hope that the original goal may easily be exceeded or at least take less than a decade to reach.

Other Success Stories

All of the restoration success stories or successes in the making described so far in this article and the previous issues of the *Iowa Conservationist* came about through the direct action of the DNR and other public and private conservation agencies. But some species have managed the long road back with less help.

Bald eagle. The bald eagle, once thought to be near extinction in the lower 48 states, has made a remarkable comeback and will likely be removed from the federal endangered species list soon. Even when their numbers were greatly depressed in the 1960s, bald eagles commonly wintered in small numbers below the locks and dams of the Mississippi River in Iowa. But as recently as 1975 there were no bald eagle nests known in the Midwest south of northern Wisconsin and Minnesota.

With the DDT ban and the protection provided to all birds of prey by federal statutes, populations of most birds of prey began increasing in the last quarter of the 20th century. The first bald eagle nest in Iowa in modern



Ty Smedes

history was found on the Mississippi River near Lansing in 1977. Since then eagle populations have had a slow but steady increase, and by 2000 there were 120 active eagle nests in Iowa. Most are in the eastern part of the state but eagles

have been spreading inland and nests can be found along several of our major rivers and lakes.

Wintering eagle numbers have likewise increased from as few as 400 in the early 1980s to a record 2,500 in 2001. In mild winters, when lakes and



Ty Smedes



Ty Smedes

streams have open water, eagles can be seen all across Iowa, even in urban areas like Des Moines, Cedar Rapids and the Quad Cities.

Sandhill cranes. There are two groups of sandhill cranes that migrate through or close to Iowa. Greater and lesser sandhill cranes wintering in the southwest, northern Mexico and along the Gulf Coast in Texas migrate through central Nebraska to nest on the prairies of Canada. The eastern population winters in Florida and nests in Minnesota, central Wisconsin

and Michigan. The eastern population has been increasing rapidly under careful protection by state and federal wildlife agencies. Young cranes are spilling out of their traditional nesting areas and are starting to show up in eastern Iowa.

The first modern sighting of a nesting pair of sandhills was at Otter Creek WMA in Tama County in 1992. Since then, numbers have increased slowly, with pairs and young

cranes seen at several wildlife management areas including Cardinal Marsh WMA in Winneshiek County, Princeton WMA in Scott County, Goose Lake WMA in Clinton County, Muskrat Slough WMA in Jones County, Sweets Marsh WMA in Bremer County, Big Marsh WMA in Franklin County and at New Albin on the Mississippi River. These pioneering cranes are taking advantage of habitat available on areas managed as wetlands for a variety of wildlife and as public hunting areas.

Bobcats. For a century, intense trapping pressure quickly eliminated any bobcats that wandered into the state. That all changed in the mid-1980s when world fur markets collapsed and the profit went out of trapping. Since then, populations of most furbearers, including bobcats, have increased nationwide.

Bobcat sightings were confirmed in southern and western Iowa as early as the late 1980s, suggesting the first cats came into Iowa from Missouri, Kansas and Nebraska. Most sightings have occurred in western Iowa's loess hills, southwest Iowa south of Interstate 80, and up the Des Moines River corridor into north-central Iowa. Verified sightings have been made in 45 counties, with young cats spotted in 19. Their status in Iowa will likely be down-listed from endangered to threatened in the near future.

Habitat is the Key

These recent successes in restoring part of Iowa's wildlife heritage are a testimonial to what can be accomplished when wildlife professionals are allowed to apply scientific wildlife management principles to remedy a century-old ecological tragedy. But none of this could have been accomplished without the existence of suitable habitat and the ability of wildlife to adapt to living in a modern agricultural environment.

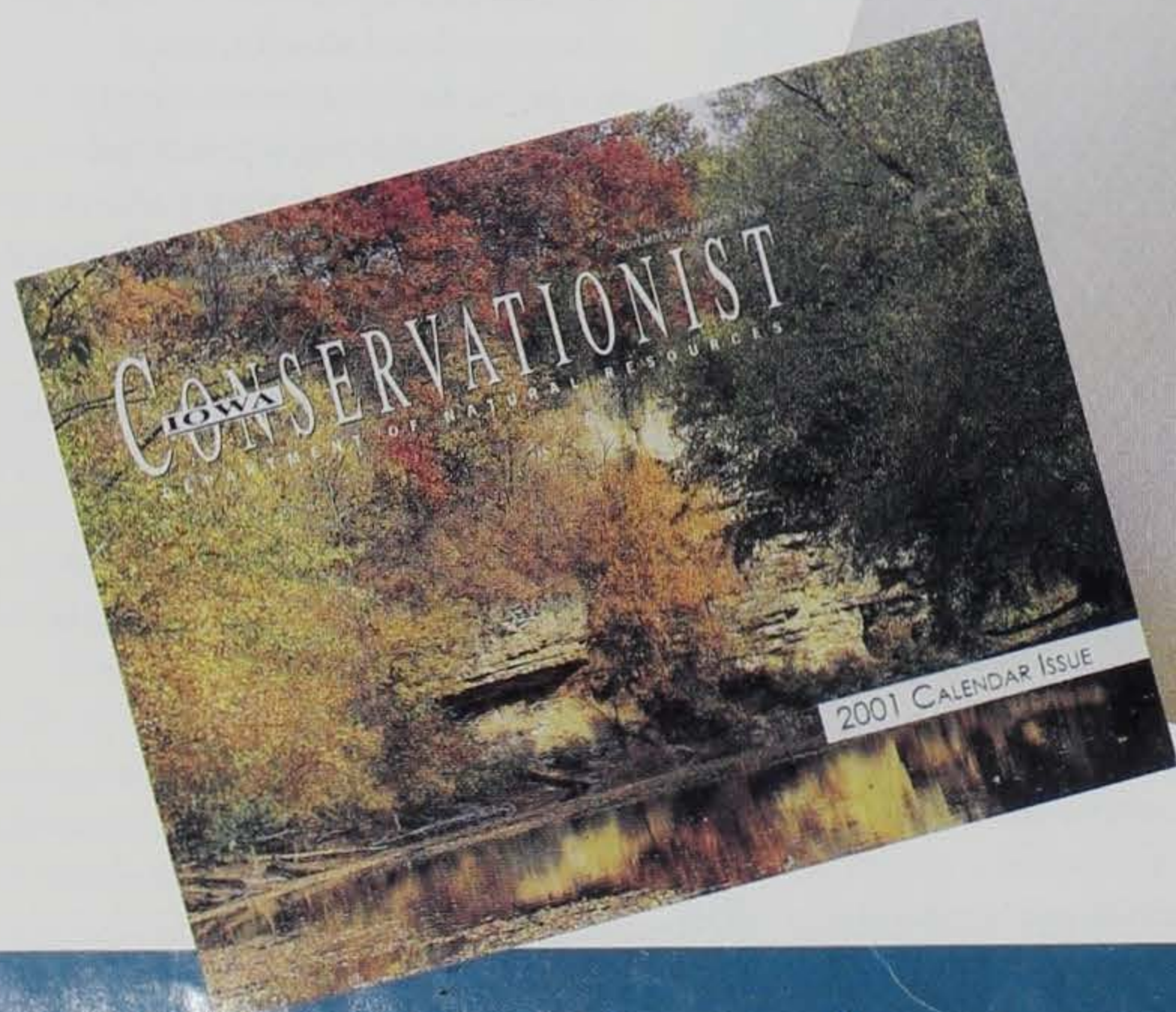
In the next installment of this series I will describe efforts by the DNR to protect and restore wildlife habitats for future generations of Iowans.

Terry W. Little is the wildlife research supervisor for the department in Des Moines.

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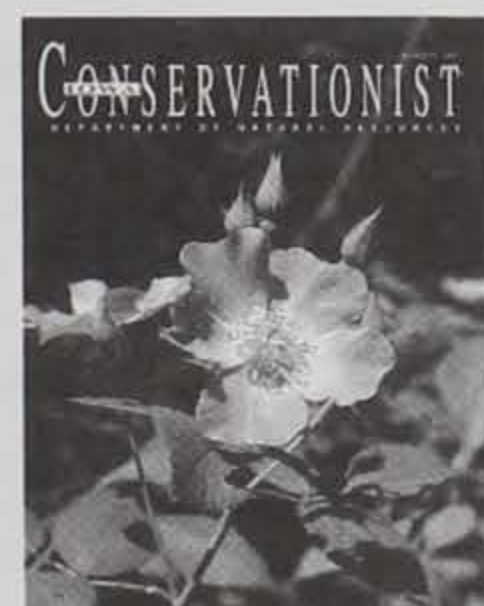
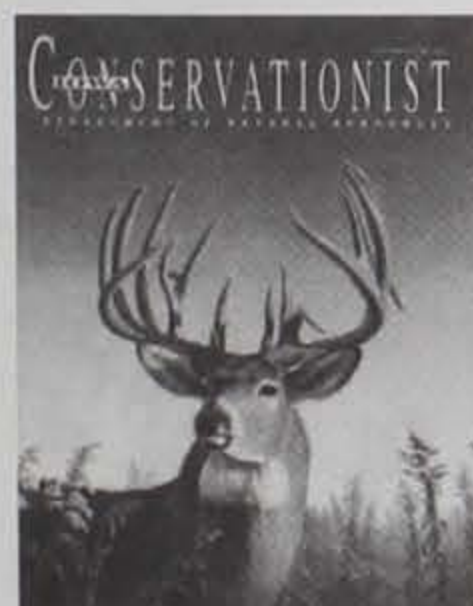
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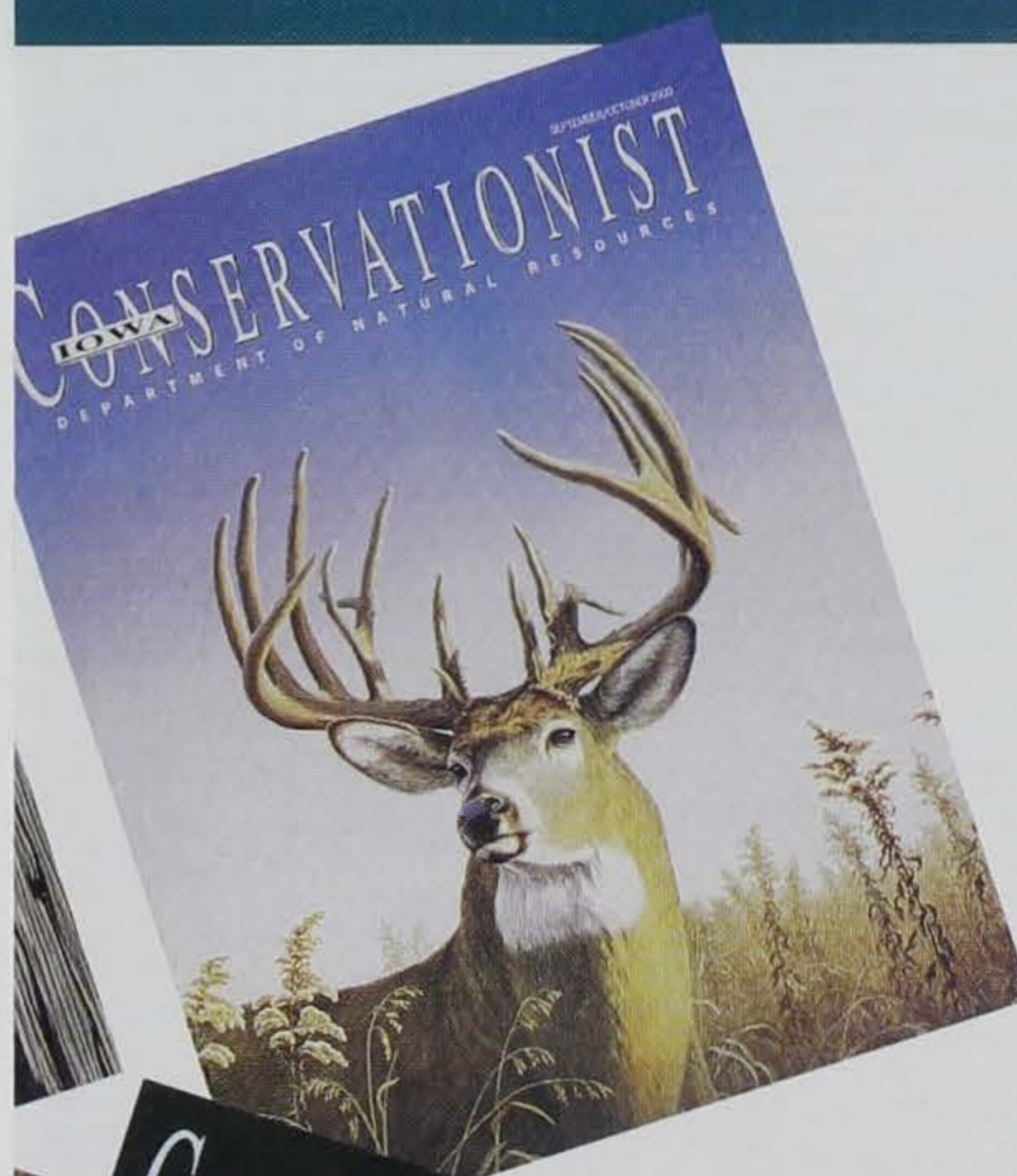
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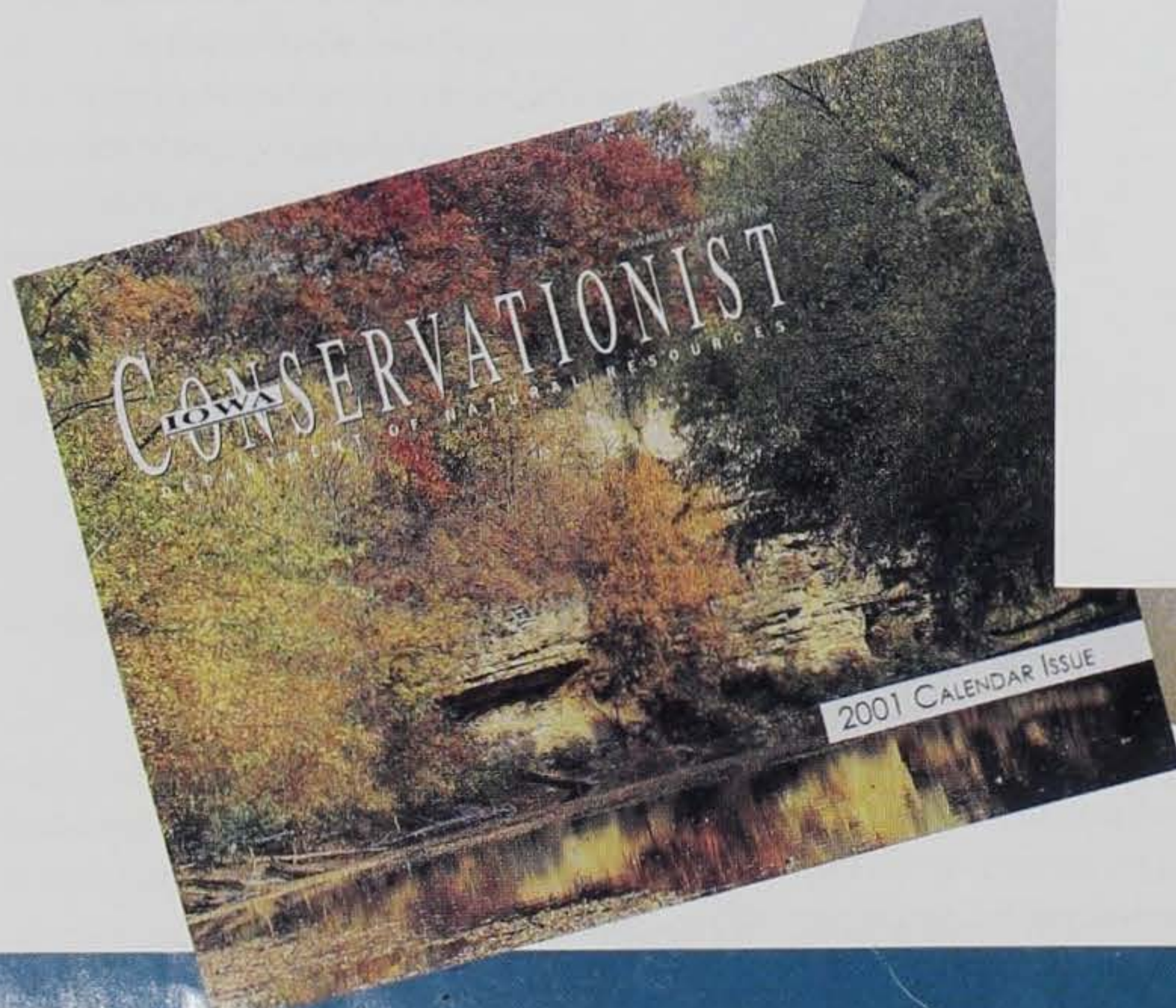
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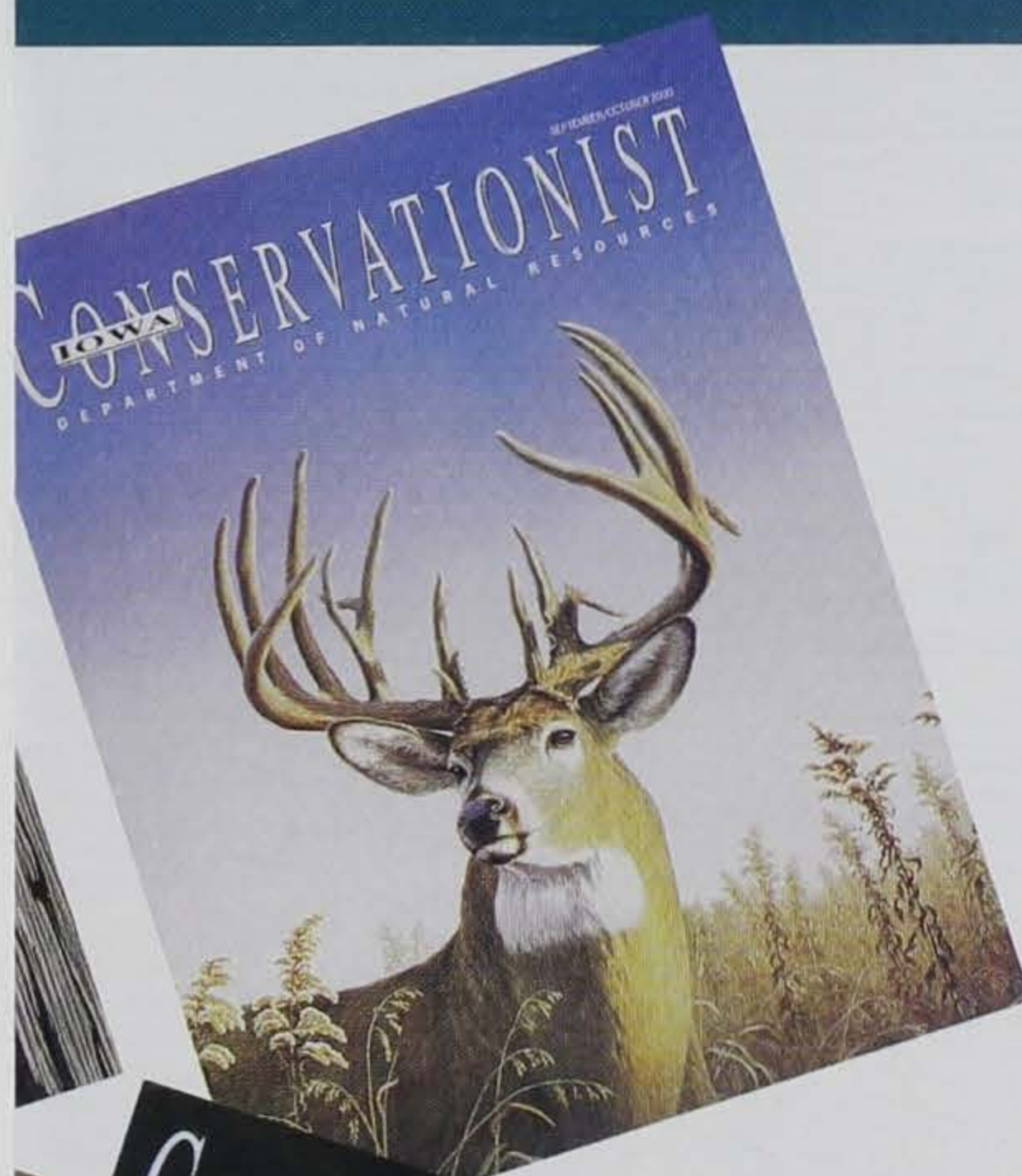
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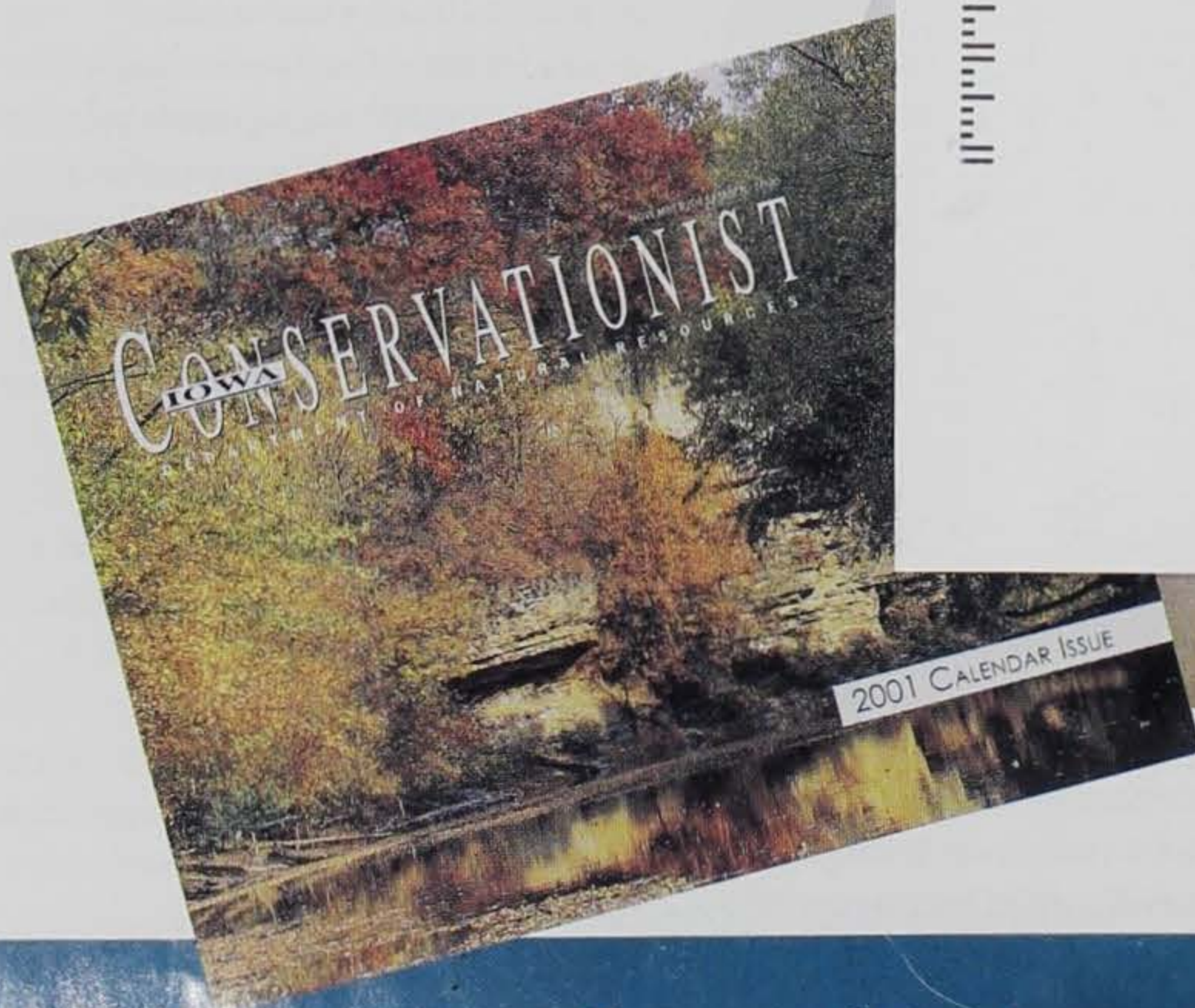
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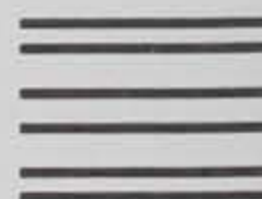
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Guess What's Lurking in the

Mighty Mississippi

by Melvin C. Bowler



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Most people like fish, or at least looking at them anyway. Many Iowans have home aquariums, or take time to visit a public one sometime during the year. Stop at the DNR building during the Iowa State Fair and you'll find crowds gathered around the aquarium, mesmerized by the size and diversity of fish.

Iowa has a remarkable diversity of fish species in its waters. At last count, there are around 150 different fish in the state. Although many people identify fish (and fishing) with Iowa's abundant ponds, lakes and reservoirs, these standing water bodies don't contain the assortment our flowing water systems do. And the one body of water that exemplifies this diversity is the Mississippi River.

The stretch of the Mississippi River that borders Iowa is home to about 95 to 100 different species of fish. It's an aquarium owners' dream. The majority of the fish are

native to Iowa. The tremendous array of fish fauna is one of Iowa's better-kept secrets, and it's easy to see why it's often overlooked.

It's pretty tough to look down into the muddy waters of the Mississippi and see what's really there. Most people gaze into the water and realize there are fish below the surface, but the majority don't comprehend how many.

Normal behavior also helps protect fish against human detection. If a fish (especially a smaller one) can be seen, chances are it will be dinner for another fish or aerial predator. It doesn't matter if it's a bluegill or a rainbow darter, if it's small, it's a potential lunch. So instinctively, fish hide.

The fish that are visible, especially the small ones, are usually in a large group or school. This is a basic survival strategy. Odds of survival



Crystal darter

Wisconsin DNR

are much greater when swimming around with a thousand other little fish.

That's business as usual in the aquatic ecosystem.

Identifying one fish from another, especially in their natural environment, can be difficult. It's not like distinguishing a monarch butterfly from a tiger swallowtail, or a red-headed from a pileated woodpecker. Unless the fish is in your hand, it's difficult to tell one species from another.

Most anglers are familiar with about a dozen different fish — those most commonly caught. Black and white crappies, bluegills, bullheads, channel catfish, carp, largemouth bass, muskies, northern pike, smallmouth bass, walleye and yellow perch are probably the most recognizable.

However, that's less than 10 percent of the species



Ty Smedes

DNR photo

OPPOSITE PAGE and LOWER LEFT: The Mississippi River and its side channels are home to around 100 fish species.

found in Iowa. Many of the not-so-well-known fish species are found in the Mississippi River.

Paddlefish, or spoonbills as they are known, are one of the largest and most primitive fish around. They are truly dinosaurs and chances are you will never see a more unusual fish. They are more closely related to sharks than they are to bass or catfish, as their skeletal system is made of cartilage instead of bone. These fish have an unmistakable paddle-shaped snout and can attain a weight of 100 pounds or more. They filter-feed on microscopic aquatic plants and animals (phytoplankton and zooplankton). In the United States, they are found only in large river systems of the Mississippi River drainages.

Burbot, or eelpout, may give the paddlefish a run for its money in the "looks" category. Rarely seen or caught by anglers because of their nocturnal nature, the burbot is a member of the cod family and looks like a cross between a flathead catfish and an eel.

Speaking of eels . . . the Mississippi has them too. The American eel is in Iowa's border rivers and probably their major tributaries. Eels are long and slender and resemble snakes more than fish. They have a unique life cycle in that they grow up in freshwater and travel to saltwater to spawn. American eels can get up to 6 feet long, and for anyone (un)lucky enough to pick one up, they just might be the slimiest things in the world.

Very similar to eels, but no relation other than being a fish, are lampreys. There are two species of lampreys in the Mississippi – chest-



Dray Walter

Blue sucker

nuts and silvers. Lampreys are a primitive fish. They don't have fins and they also lack jaws.

So how do they eat? Lampreys are basically swimming mouths. Both lamprey species are parasitic, which means they attach to a host – another fish. Their mouths are sucking discs and are equipped with circular rows of short, needle-sharp teeth. Once attached, they have a rasping tongue that bores into the host's flesh allowing them to feed. Kind of like a leech with teeth. Most lampreys I've seen have been attached to common carp, northern pike and paddlefish and are rarely longer than 12 inches. They are uncommon in the river and you don't need to worry about them latching onto you.

Another primitive fish that calls the Mississippi home is the sturgeon.



DNR Photo

Sauger (top)



Ken Formanek

Perch

Like paddlefish, sturgeon are ancient relics. They have been around for millions of years. If you have ever seen one, you can see by their body shape they are perfectly suited for living on the bottom of swift, flowing water habitats. They look like torpedoes with fins and tails.

There are two species of sturgeon

found in the Mississippi River. The appropriately named shovelnose, or sand sturgeon, has a flattened shovel-shaped head and its body is armored with heavy plates that are actually modified scales. Average shovelnoses get to be only about 30 inches, and there are good populations in our larger rivers.

Its larger cousin, the lake or rock sturgeon, is found solely in the Mississippi River and is quite rare. "Lakers" are endangered in Iowa. They can grow to more than 100 pounds and may live for 50 years. It takes at least 20 years before a female is

able to reproduce, and she may only spawn once every 4-6 years, which may explain why lake sturgeons are so scarce.

Three species of gar are found in the Mississippi River along the Iowa border. The shortnose gar is the most common, the spotted gar is the least common (until last year, spotted gar had never been collected in Iowa) and the longnose gar is somewhere in between.

All three are considered primitive and are similar in appearance. They are long and slender with extended snouts inlaid with hundreds of sharp teeth. Their bodies are covered with rough, heavy scales and they can take in air through their throats and into their swim bladders. This adaptation allows them to absorb oxygen from the blood vessels that line the swim bladder, much like how human lungs work (remember fish don't have lungs, they remove oxygen from the water passing over their gills). Even if oxygen levels get low, as they sometimes do in Iowa, sturgeons can usually survive.

Bowfins, another primitive fish of the Mississippi, also have swim bladders. Also known as the dogfish, they have no other living relatives.

About one-third of the 150 or so fish species found in Iowa are members of the minnow family and, at first glance, are similar in appearance. Most of them aren't very colorful. When I came to work on the Mississippi River 10 years ago, my general attitude was, "There's only three kinds of minnows around here — crappie minnows, walleye minnows and pike minnows." Boy, was I wrong.

Iowa's portion of the Mississippi



Paddlefish



Lake sturgeon

River is home to 35 different species of minnows. Some, such as channel shiners, ghost shiners, mimic shiners, pallid shiners, pugnose minnows and weed shiners are found exclusively in the Mississippi River.

Minnows, however, aren't the only fish in Iowa occurring solely in this river.

The perch family, for example, numbers 20 different species. Sauger, walleye and yellow perch

are the most familiar. Sauger and walleye are common in most larger waters of the state, and perch are fairly abundant across much of northern Iowa.

The Mississippi contains those three, plus nine others in a subfamily collectively known as darters. Darters don't grow nearly as large as their cousins (a big one would be maybe 4 to 5 inches), but they are very unique in appearance and coloration. In Iowa, bluntnose

darters, crystal darters, river darters and western sand darters are found only in the Mississippi River.

The crystal darter is the rarest fish in the subfamily. In 1995, the DNR's Mississippi River Research Team collected a specimen near Guttenberg. It is the only one ever documented in Iowa waters.



Melvin C. Bowler

Juvenile shovelnose sturgeon



Melvin C. Bowler

Shovelnose sturgeon

Similarly, the bluntnose darter was last documented in 1975. It was thought to be extirpated (eliminated from its natural range) in Iowa until five fish were collected from 1998 to 2000. Darters are of particular interest because they are considered sensitive species and indicators of good water quality.

There are numerous other species found in the Mississippi River, such as blackstripe and starhead topminnows, blue suckers, brook silversides, three species of buffalo fishes, three kinds of bullheads, emerald shiners, golden shiners, goldeyes, grass pickerel, highfin carpsuckers and Mississippi silvery minnows. There are mooneyes, mosquitofish, mud darters, pirate perch, pumpkinseeds, quillbacks, four species of redhorse, river carpsuckers, river shiners. Then there are rock bass, silver chubs, skipjack herring, slenderhead darters, speckled chubs, spotted suckers, stonecats, suckermouth minnows, tadpole madtoms, trout-perch, warmouth, white bass and yellow bass. I probably missed a few, but you get the idea. Again, a lot of these fish are found only in the Mighty Mississippi.

A few species no longer found in the Mississippi River are the alligator gar, blue catfish and muskellunge. We know from historical records they were here, but none have been collected for many years. The reason for their disappearance is quite simple — habitat loss.

Sedimentation is

considered to be the biggest problem in the Mississippi River. We don't notice or pay much attention to it because the changes don't happen overnight. They occur over a long period of time. Since the lock and dam systems were established in the early 1940s, the Mississippi River has slowly lost aquatic habitat, especially in its backwaters, due to sedimentation.

Backwaters lack the current in the main and side channels and are extremely important to certain species of fish as overwintering sites. As the backwaters fill with sediment, or silt, they become shallower. When ice forms in the winter and becomes covered with snow, shallow backwaters lose oxygen and do not provide suitable habitat for fish. The rates of sedimentation in the Mississippi River backwaters vary, but in general, it's about three-fourths of an inch per year. Sedimentation in big rivers happens for a couple of reasons.

Rivers and streams readily capture silt and transport it downstream. When it rains, runoff from the land flows into our streams, and a



Shortnose gar

fair amount of topsoil accompanies the runoff. The small streams flow into bigger streams and so on. Eventually, the silt-laden waters enter the Mississippi River from its tributaries. Today, 97 percent of the land in Iowa involves some form of agricultural use.

Over the last 100 years, many of our interior streams have been

straightened for agricultural purposes. Water in these channelized streams tends to move faster than in meandering streams. Silt settles when the water velocity slows. Because of the alteration in stream flow, sediment loads are moved downstream more efficiently.

Sedimentation is compounded by the fact a major portion of Iowa's wetlands have been drained for agricultural purposes. Wetlands are great buffers, or filters, slowing the water and capturing some of the silt load before it enters the streams. To put it into perspective, it has been estimated the quantity of silt entering the Mississippi River from the Maquoketa River alone equals an average of 150 dump truck loads of sediment per day! Some species of fish, including most of the darter species previously mentioned, are not tolerant of silt. They simply can't live and reproduce successfully in silty areas.

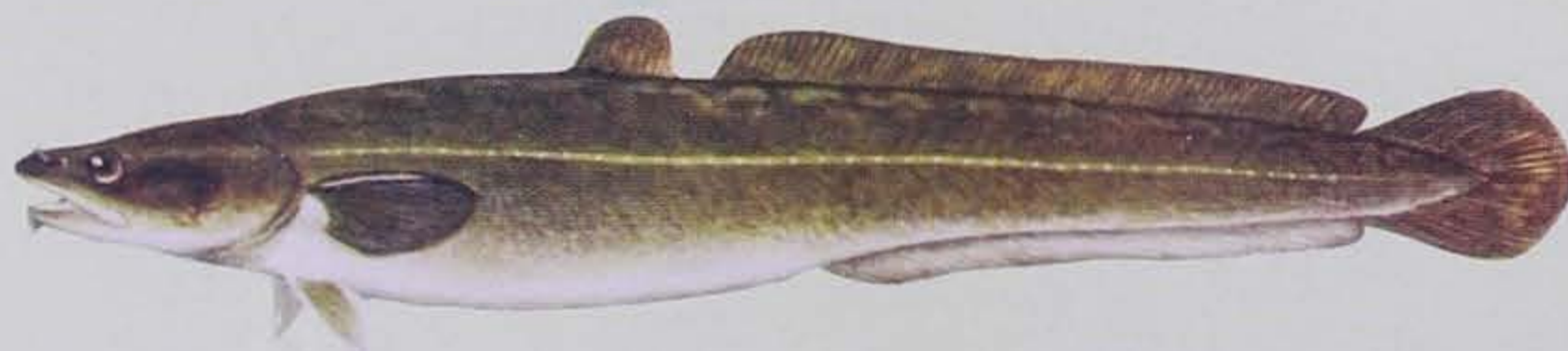


Mooneye

Changes to the Mississippi River itself have also impacted fish and aquatic habitat. In 1930, the U.S. Congress authorized the permanent establishment of 9-foot channels for commercial navigation on the Mississippi from St. Paul, Minn. to Cairo, Ill. The project included 29 lock and dam structures, which were designed to improve navigation, not control flooding as some people believe. The river was channelized and hundreds of long, rock deflection structures (wingdams) were placed perpendicular to the shoreline to keep the majority of the flow in the main channel.

The natural floodplain (where the river used to run) of the Mississippi River has also been dramatically reduced and constricted in the last century. Hundreds of dike and levee systems have been built to keep water out of the natural floodplain. When water levels are high in the spring, the dikes and levees can't disperse water over its natural floodplain. Consequently, the water moves downstream faster and at higher water levels. The further downstream, the higher the levee, and the less diverse the river becomes.

The Mississippi has and continues to undergo big changes. As in many cases, there are usually multiple factors contributing to a bigger problem. Barge traffic, for example, resuspends sediment in the river.



Burbot



American Eel

Winds, waves and river current erode the shorelines of islands, complexes that add a tremendous amount of habitat and diversity to the river.

Exotic species are also changing the composition of the river by competing with native species for food and habitat. These nonnative species can potentially eradicate entire communities of native animals.

Zebra mussels are a prime example. Zebra mussels are freshwater bivalves native to the Caspian Sea area of Asia. They were likely introduced to North America in the mid-1980s via the ballast water discharged by transoceanic tankers into Lake St. Claire near Detroit. They were first discovered in North America in 1988 in Lake Erie. They have since spread through the Great Lakes, into parts of Canada and Mississippi River. They are now showing signs of moving inland. Zebra mussels have been found in the Missouri River and some inland lakes in midwestern states.

The average life span of zebra mussels is three to five years and the females are reproductively mature in

a year. A typical female can produce about 40,000 eggs per year. Once fertilized, the juveniles, called veligers, drift in the river for about a month before attaching themselves to a hard surface via fine, sticky threads. They attach to any hard surface — boat hulls, rocks, old cans, sticks, stumps, water intake pipes and even small grains of sand.

Often zebra mussels will attach themselves, sometimes layer upon layer, to native freshwater mussels. Freshwater mussels (there are about 50 in the upper Mississippi) feed by filtering particles out of the water. They must be able to open their shells to feed and reproduce, and a small colony of attached zebra mussels will prevent them from doing so. Zebra mussels have been found in densities up to 45,000 per square meter.

The future for native freshwater mussels in the Mississippi is, at best, bleak. It has been less than 10 years since zebra mussels arrived in Iowa and biologists still don't know how they will impact the entire river system. One zebra mussel can filter a liter of water per day, removing microorganisms native mussels and fish rely on for food. They pose a serious threat to the aquatic food chain.

Zebra mussels can also take over the limited gravel/rocky spawning habitat so critical to some fish species. Zebra mussels are just one

example of nuisance, exotic species already present in the Mississippi River, and more are showing up. Biologists are already looking into the impact of other exotic invaders such as bighead carp, black carp, silver carp, round goby, ruffe, rusty crayfish, spiny waterflea and white perch.

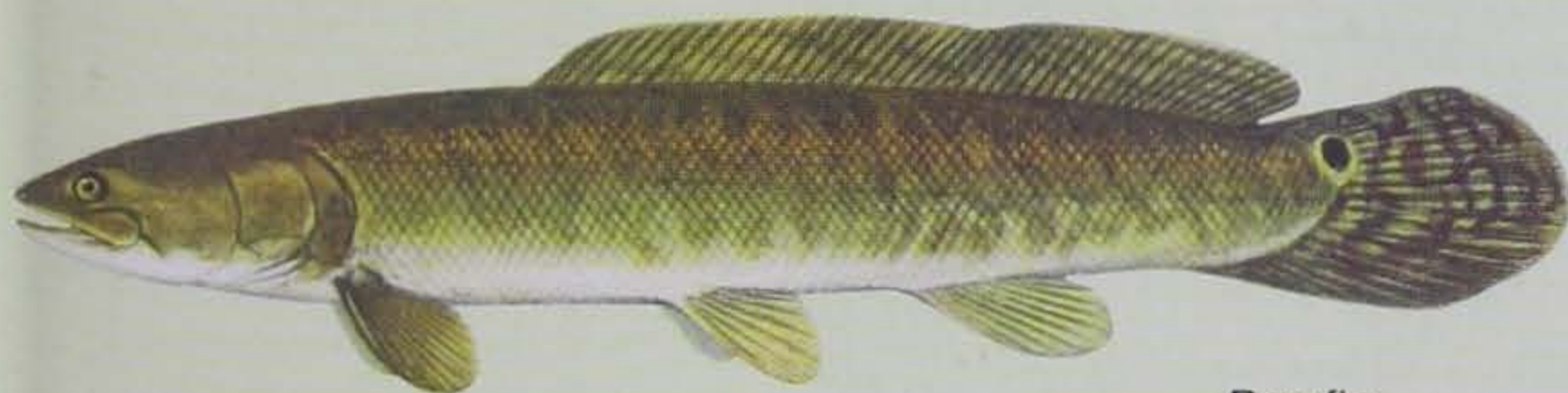
To see the nation's most unique and grandest of rivers take a significant turn for the worse in such a relatively short span of time because of human actions (it has been around for about 10,000 years) is a little disturbing. It sure will be a shame to lose any of the existing diversity of fish, plants or animals in this truly exceptional river. And it is very apparent the river and its inhabitants probably won't improve much until we make improvements in our interior watersheds.



Zebra mussels

There are other projects aimed at improving, restoring and rehabilitating parts of the river. Mississippi River Fishers Involved in Saving Habitat (MR FISH) is designed to improve the shoreline habitat. Habitat Rehabilitation and Enhancement Projects (HREP) involve making deep channels, or dredge cuts, into backwater lakes or sloughs, developing islands or constructing waterfowl complexes to create new habitat.

HREPs are very expensive though (the largest one cost about \$12.5 million), and the amount of habitat restored or enhanced is



Bowfin

Despite all the adversities, the diversity of the Mississippi River is still rather remarkable. It is one resilient river. Programs such as Conservation Reserve Program (CRP), Wetland Reserve Program (WRP), the buffer strip initiatives (including field buffer strips and riparian zone buffer strips) can make a difference. Landowners already taking part in any of these programs should be commended. These small steps can pay big dividends.

meager compared to the river system as a whole. With about 400,000 acres of aquatic habitat in the Upper Mississippi River, HREPs are often too small to get at the root of the problem.

The next time you visit a fresh water aquarium, whether at the state fair or local sportshow, take a close look. There is a good chance the same fish species you see swimming inside are also lurking in the waters of the Mighty Mississippi.

A book published by the DNR is available illustrating the many fish species found in Iowa. *Iowa Fish and Fishing* contains descriptions of the various fish, their life histories and ranges within the state. It contains information on the abundant waters in our state, with chapters devoted to fishing techniques and tips on angling for specific species. It also includes a brief overview of the evolution and rationale for fisheries management in Iowa. The 340-page reference book features 63 color illustrations to help identify different species. The book is \$15 and can be ordered by writing: DNR, Wallace State Office Building, 502 E. 9th St., Des Moines, Iowa 50319-0034.

Melvin C. Bowler is a fisheries technician for the department located at Bellevue.



Falling On Hard Times

by Jim Jansen

Cooling temperatures and changing colors are some of the first signs of fall. However, the "fall season" can have a different and much more serious meaning than just the time of the year.

Falling from a tree is a common hunting accident, but it is not well documented. Iowa and many surrounding states do not keep records of falls from tree stands, mostly because they often go unreported or reported only to the local hospital where the victim seeks medical attention. In fact, in some states a tree stand fall is not considered a hunting accident unless the victim is injured by the weapon they are using.

However, the 2000 Illinois Department of Natural Resources hunting incident report documented one third of the reported hunting accidents involved falls from tree stands. In addition, 70 percent of them resulted in major injuries to the victim.

Jim Jansen is an experienced hunter, a wildlife biologist for the DNR and a seasoned "tree climber." He didn't fit the mold of someone who would fall out of a tree stand. Or did he? Jansen tells his story of "A fall that could change your life."

Roger Hill

As a bow hunter, I know painfully well that falling from a tree stand is a serious hunting hazard. I have been using tree stands for 21 years, and until last year, had fallen only once. I took the first fall in my early years when the tree step I was hanging on to pulled out and I plummeted to the ground, breaking off steel steps with my back as I fell. I had the wind knocked out of me, but I quickly recovered and hunted from a different tree the same night.

Clay Smith



I was 25 years old then, panther-quick and leather tough, but I was lacking in wisdom. The tree I fell from was a dead elm. I learned that deadwood in a dead tree does not hold tree steps like deadwood in a live tree.

But last year, 13 years after the first accident, my respect for heights reached a new level, as I plunged 12 feet and landed on my back. The immense pain I felt this time, I am sure, was directly related to aging. After I hit the ground, I screamed in pain for about five seconds, which seemed like an eternity. As the sweat

rolled off my forehead and the initial pain subsided, I laid on my back looking at the sky through the tree canopy.

My first thought was "there goes my hunting season," which at that moment was a tough pill to swallow. But as troubled breathing and blurred vision set in, my thoughts soon shifted. I remember thinking; do I have enough disability or life insurance? What about my wife? And the kids?

It was at that point I realized I had to fight panic and come up with a plan. I made the mistake of not telling

anyone exactly where I was, so I had to try to move to find help. I was fortunate, because I was able to get up, walk back to my house and have my wife take me to the emergency room. X-rays revealed no broken bones, but there was blood in my urine from a bruised kidney. The difficulty in breathing was caused by a blow to the muscles surrounding my chest cavity.

Although my injuries

OPPOSITE PAGE: A survey by a national deer hunting magazine found more than one-third of those who hunted from a tree stand had fallen at some point in their life.

UPPER: A safety harness or belt should be worn at all times when hunting from an elevated stand.

LOWER: Permanent stands should be checked closely every year for signs of wear. Due to the design, this stand poses some safety concerns.

Clay Smith



BELOW: A haul line should be used to retrieve hunting equipment.

OPPOSITE PAGE: Most tree stand accidents happen when ascending to or descending from the stand.

were minor, it still took more than a month to recover. I was lucky; there have been numerous hunters who spent hours

and sometimes days lying motionless at the bottom of a tree. Some have died, including a few in Iowa.

As I talked with others about my experience, I was astonished to learn how many people had fallen from tree stands or knew someone who had. In my own hunting circle, like myself most had walked away with little or no injury. However, one person I know is paralyzed from the neck down and another crushed a vertebrae and is permanently disabled.

One might think I associate with unlucky or beginning hunters, but a tree stand survey by *Deer and Deer Hunting* magazine indicates falls are

not relegated to the novice and are more common than one might think. The survey found more than one-third of those who hunted from elevated stands had taken the plunge sometime in their life. Results from the 1993 survey, will hopefully help hunters realize, regardless of age or expertise, leaving the ground makes one vulnerable.

The study showed when a fall occurred, the average height of the tree stand was 16.55 feet and the average distance fallen was 11.12 feet. Victims

averaged 34.39 years old, and 83.2 percent were not wearing a safety belt.

The circumstances of my fall mirrored the findings of the survey. I fell while placing my stand at about 10 feet while standing on a limb at about 12 feet, and I was 38 years old and not wearing a safety belt.

From the survey, 23 percent blamed structural failure such as rotted wood, broken chains or bolts and loose nails, and approximately 20 percent said they slipped. Another 36 percent listed the primary cause of fall as "other," such as a branch breaking a climber band or arm slipping or the hunter becoming unconscious. Rounding out the reasons for falling were: lost balance or misused tree stand, 6 percent each; and missed step or fell asleep, 4 percent each.

My fall fell in the "other" category. The stabilizing screw of a commercial stand pulled out as I was securing the stand in place. The accident taught me to never use a previous year's hole for stabilizing screws or tree steps, even if the tree is oak and the screws appear solid.

Of the more than 2,300 responders, 29 percent said they were in the stand when the fall occurred. The same percentage said they were ascending to or with the stand, and 22 percent said they were descending from or with the stand. The survey also showed an equal number — 10 percent each — said they were entering or departing the stand.

The survey identifies a higher frequency of falling when engaged in or with specific activities and equip-



Roger Hill



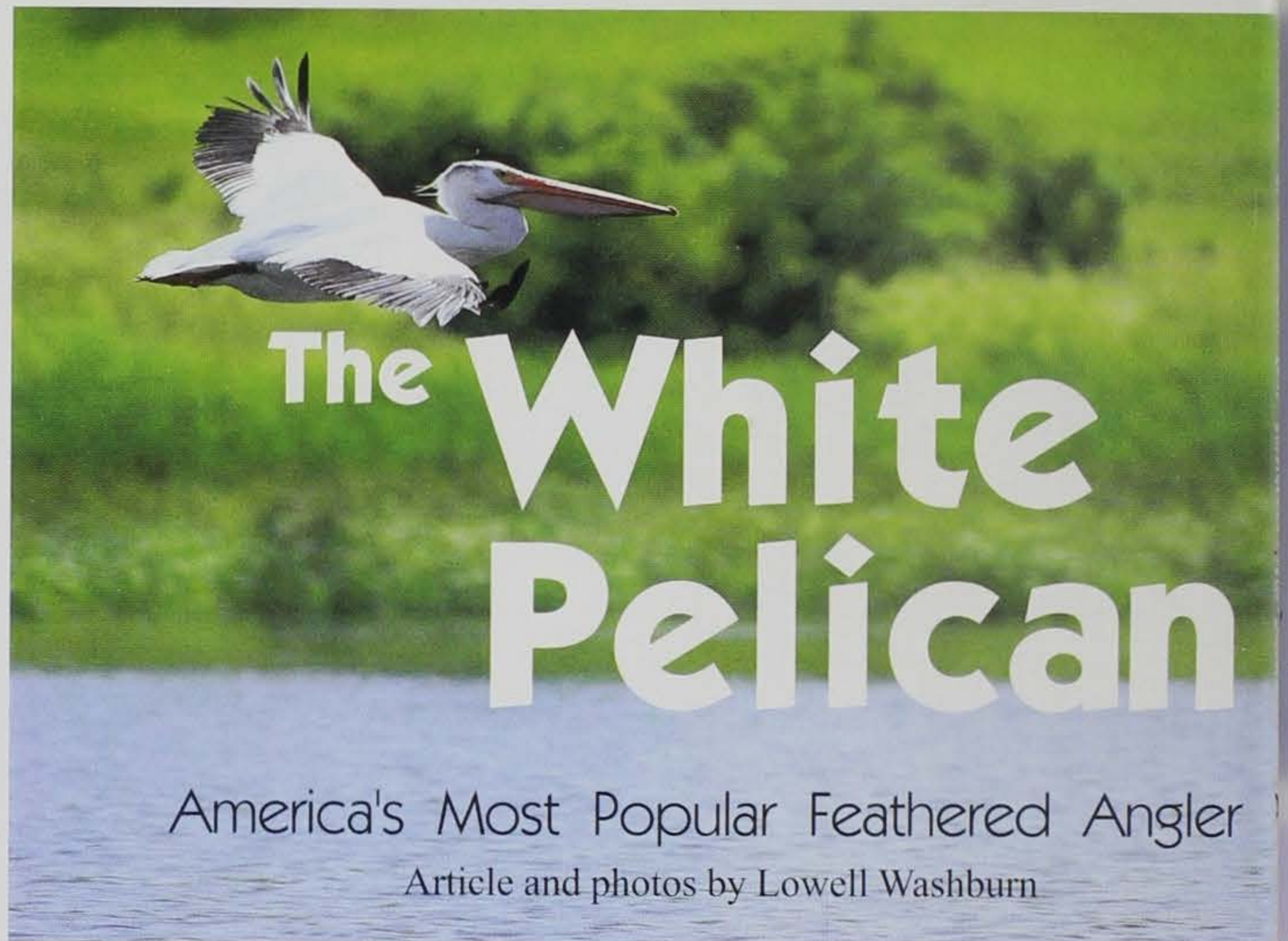
Ten Rules Of Tree Stand Safety

- ✓ Identify your personal physical limitations such as weight, agility, strength and coordination. Choose equipment and behavior that does not exceed those limitations.
- ✓ Always wear a safety belt or fall restraint system when you attempt to climb or hunt from a tree. This includes ascending, descending and occupying your tree stand. Hunters spend hundreds of dollars on weapons, and should never cut corners on a restraint system that could save their life.
- ✓ Read the instructions with all tree stands and safety equipment, practice putting the tree stand on a tree while standing on the ground.
- ✓ Regularly, inspect your equipment to assure it is in good condition and replace worn parts. Be especially cautious of stands that are left in place year-round. Check for animal damage and rotten wood. Be extra cautious of any home-made stand, even if you made it yourself.
- ✓ Always use a haul line to raise and lower equipment.
- ✓ If possible, don't hunt alone. If you do, leave a detailed map. Carry a cell phone for emergencies.
- ✓ When using screw-in steps, make sure they go into live, solid wood and are screwed-in far enough so the step rests tight against the tree. Do not use old holes from previous years and don't leave your steps in year-round.
- ✓ Research the purchase of a commercial stand and carefully shop. Select one that will be the safest for your physical ability and the conditions where you hunt.
- ✓ Carefully select the tree in the daylight looking for irregularities and angles. Practice climbing in daylight.
- ✓ Be extra careful whenever there is rain, snow or ice. Remember, the moment you stop respecting hunting from a elevated stand is the time you could loose your life.

ment. However, all categories relating to tree stands involve risks, including some not mentioned in the survey. Hunters need to be aware that almost anything can happen to cause a fall. A completely safe tree stand, no matter the style, does not exist because of unpredictable variables in the woods. For that reason, most commercially made tree stands come with a safety harness. Ultimately, the hunter who uses the safety harness and who exercises safety precautions, reduces the risk of falling.

Falls occur in a split second, often resulting in death or permanent disability. Therefore, it is critical to use extreme caution when hunting from an elevated tree stand to avoid "A fall that could change your life."

Jim Jansen is a wildlife depredation biologist with the department.



A wonderful bird is the pelican,
His bill will hold more
than his belican.
He can take in his beak
Enough food for a week,
But I'm darned if I know
how the helican.

-- Dixon Merritt
"The Pelican"

With its huge body, massive wingspan, and ungainly fish-basket bill, the white pelican is indeed a very strange bird. It is also one of America's most popular species of watchable wildlife. Whenever pelicans assemble in number, it isn't long before flocks of human admirers gather as well.

The highly orchestrated fishing endeavors of the white pelican are one of the world's most unique examples of cooperative avian behavior. The excursion often begins as a half dozen birds arrive to survey a prospective piece of fishing water. Flying anywhere from 300 to 600 feet

above the lake's surface, the birds intently scan the waters for signs of schooled fish.

Once fish are located, the flock descends to the water and lands some distance from the targeted school. Unlike its coastal cousin, the brown pelican, the white pelican does not dive but rather takes its food at or just beneath the surface.

Upon landing, the pelican flock swims purposely toward its prey. As it arrives at the food source, the flock will suddenly break formation in an apparent attempt to confuse its victim. As the panicked fish attempt their escape, the birds employ their unique pouched bill to collect lunch. In addition to whatever fish it may catch the pelican's bill also takes in several gallons of water. Once the water is allowed to drain, the captured fish are promptly swallowed.



This bulky bird has an effortless grace while soaring (far left). "Touch down" for the pelican is much like that of a pontoon plane (left). Pelicans are efficient anglers, using a co-op method of fishing (below).



EDITOR'S NOTE: For those wishing to observe Iowa's fall migration of pelicans firsthand, an official Pelican Watch will be held Sept. 16 at Jester Park near Granger. For more information contact Joe Boyles, Polk County Conservation Board, at 515/323-5300.

Whenever a flock begins to successfully fish it soon draws attention and, consequently, more pelicans. Like vultures to a carcass, soaring pelicans often arrive from all quarters to join the feeders. As the flock becomes larger, it also becomes more efficient as the cooperative effort accelerates. If the number of birds is great enough, they may even form organized skirmish lines or use their wings to drive fish into even shallower waters. It soon becomes an unforgettable sight as a hundred or more birds become a singular fishing machine with each individual carrying its role out to perfection. If the white pelican were to adopt a motto, it would likely choose the musketeer theme of "all for one, and one for all."

Although pelicans are best known for their co-op fishing activities, they are also masters of the air. Listed among the heaviest birds to fly, pelicans have a knack for conserving energy. Soaring tops their list of energy savers.

I once followed a flock of pelicans lifting off from Cerro Gordo County's Ventura Marsh. The dry September air offered plenty of lift, and the birds were soon soaring at an altitude of 500 or 600 feet above the landscape. Riding the southern breeze, the pelicans drifted in ever widening circles until they were directly above Mallard Marsh, eight miles due north of the takeoff point. After circling "in place" for nearly 20 minutes, the flock began a gradual decent back south. A few minutes later they touched down, in unison, back at Ventura Marsh. During the entire flight, I never saw even one of the pelicans take so much as a single wingbeat. Now that's conserving energy.

Pelicans are colonial nesters, preferring to rear their young on sparsely vegetated islands. Historically,



they appear to have been a common nesting species in northern Iowa. The most dramatic account of their abundance occurred in 1882 when University of Iowa Professor Bohumil

Shimek reported thousands of giant Canada geese and white pelicans nesting amongst the rich marsh habitats located "north and northwest" of Wright County.

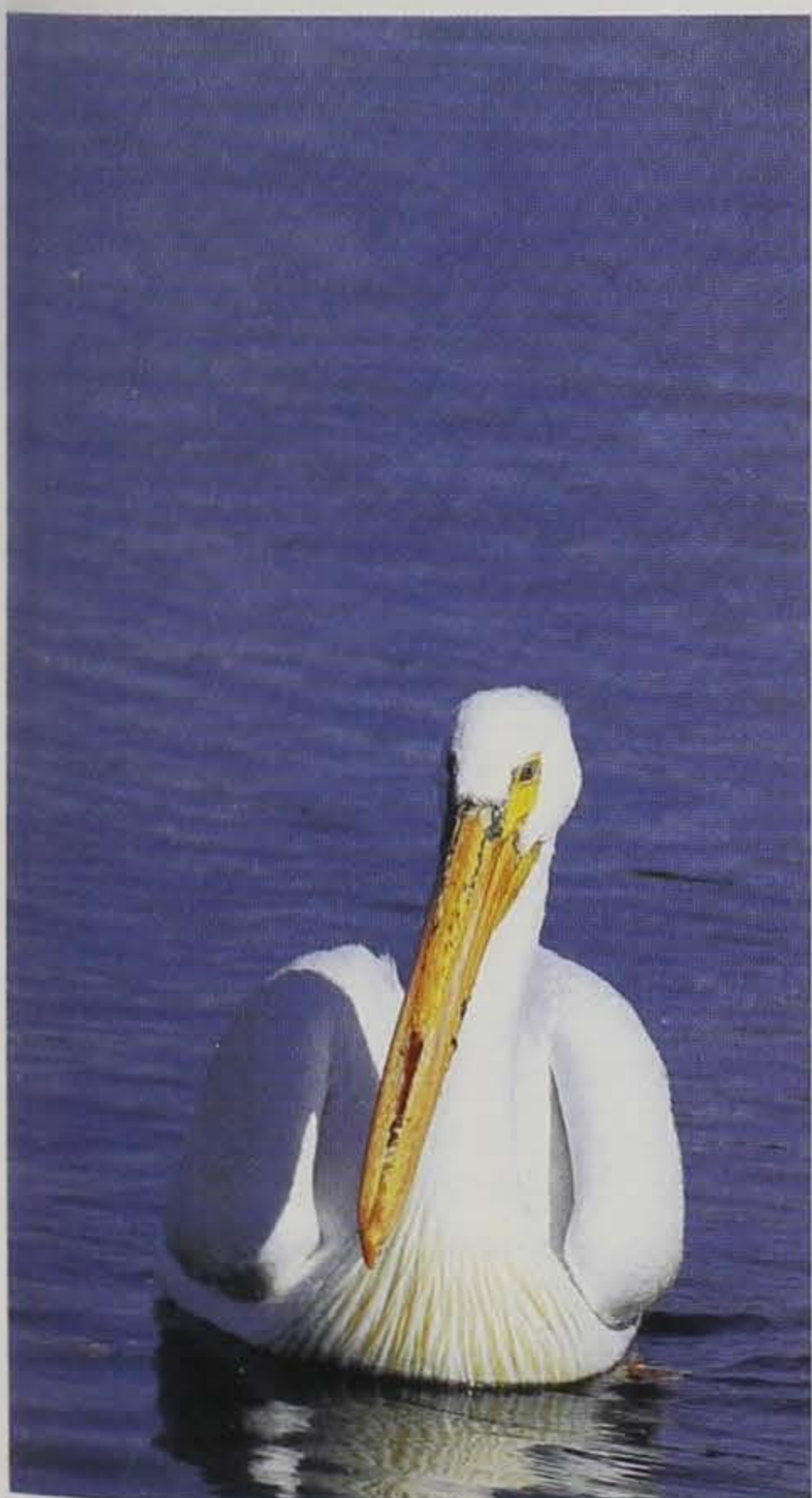
Nearly every muskrat house contained a goose nest, wrote Shimek, and "pelican eggs could be collected in favored spots by the [literal] boatload." Although both goose and pelican eggs were eagerly used by the early homesteaders, large quantities were pickled and shipped to Chicago markets. Many were apparently included in the famous "free lunches" offered in local taverns.

That brand of popularity was more than the bird could withstand. Today, no white pelicans nest anywhere in



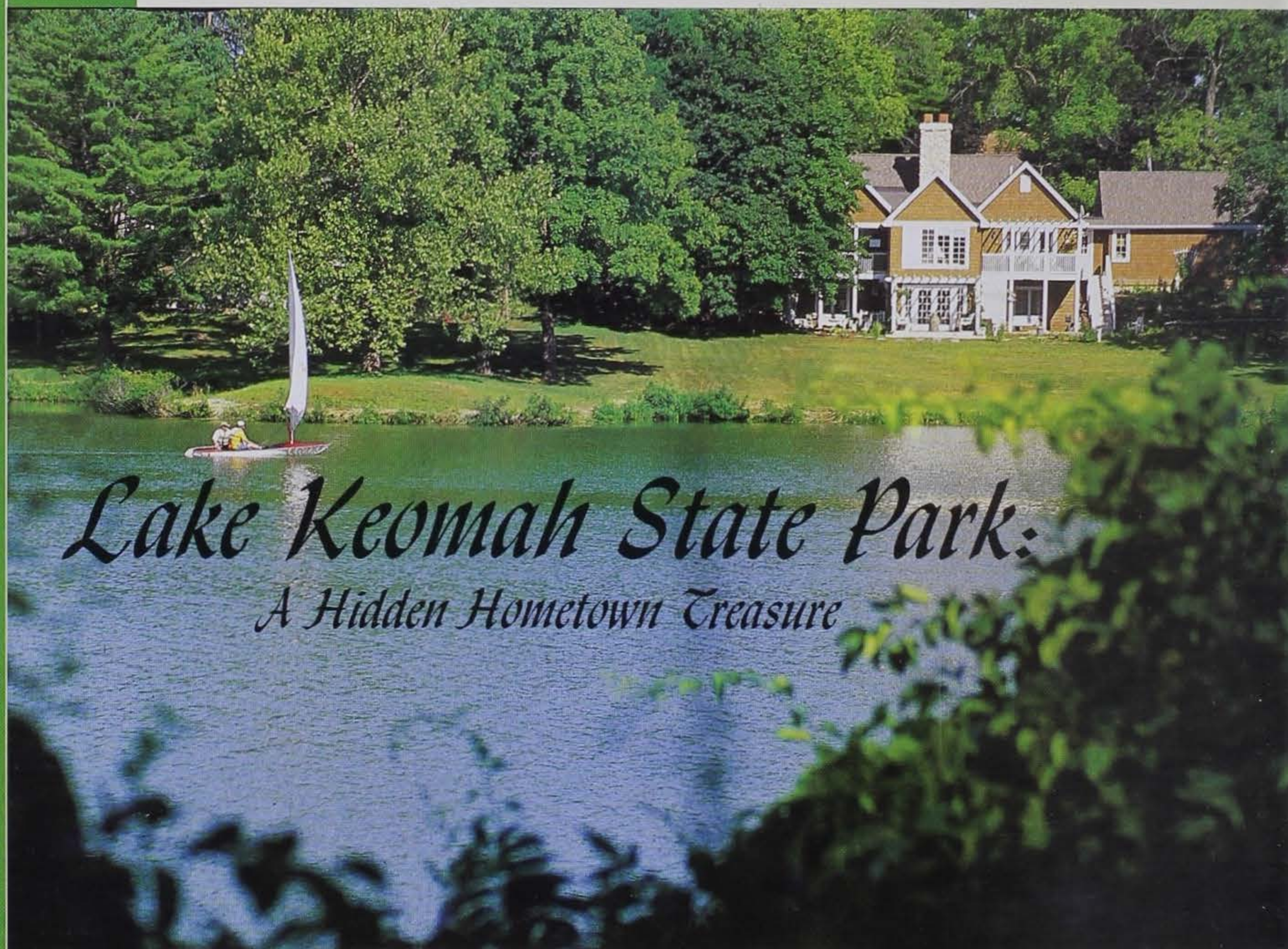
Iowa. However, an ever increasing number of subadult (nonbreeding) birds are choosing to spend their summers here. Rice Lake, in Winnebago County, has held up to 850 pelicans during the summer, and northwest Iowa's Spirit Lake has played host to about 500. But since northern breeding birds seem to be extremely intolerant of human disturbance within their nesting colonies, it seems unlikely that Iowa's historic nesting populations will return — at least in the foreseeable future.

White pelicans do, however, remain an extremely interesting resource for Iowans to enjoy during both spring and fall migrations.



Adult bird showing a breeder bill (top). Adult swallowing a bullhead (above).

PARKS PROFILE



Lake Keomah State Park: *A Hidden Hometown Treasure*

Article by Anne Tague and Larry Zirkelbach
Photos by Clay Smith

"A public park and native game shelter of approximately 300 acres, rugged, precipitous, spring-watered and fairly well wooded, the tract to include and surround an artificial lake of about 100-acre spread, with a maximum depth of about 20-30 feet, all located within convenient reach" read the June 13, 1933 *Oskaloosa Herald*. It was referring to the soon-to-built Lake Keomah State Park.

When visitors come to Iowa's state parks, many have questions about park features, others ask about the history and some are just curious about the park name itself. Lake Keomah is no exception.

Where did the name Keomah come from? It has a Native American sound; as well it should since the name is made from two different Native American words — Keokuk and Mahaska, whose

counties were named for chiefs of the Ioway and Sauk tribes, respectively. Lake Keomah had its inception from these two adjoining counties that worked together to purchase land to develop a new state park. Thus they took the first three letters from each word, and behold Keomah was born, both as a new park and a new word.

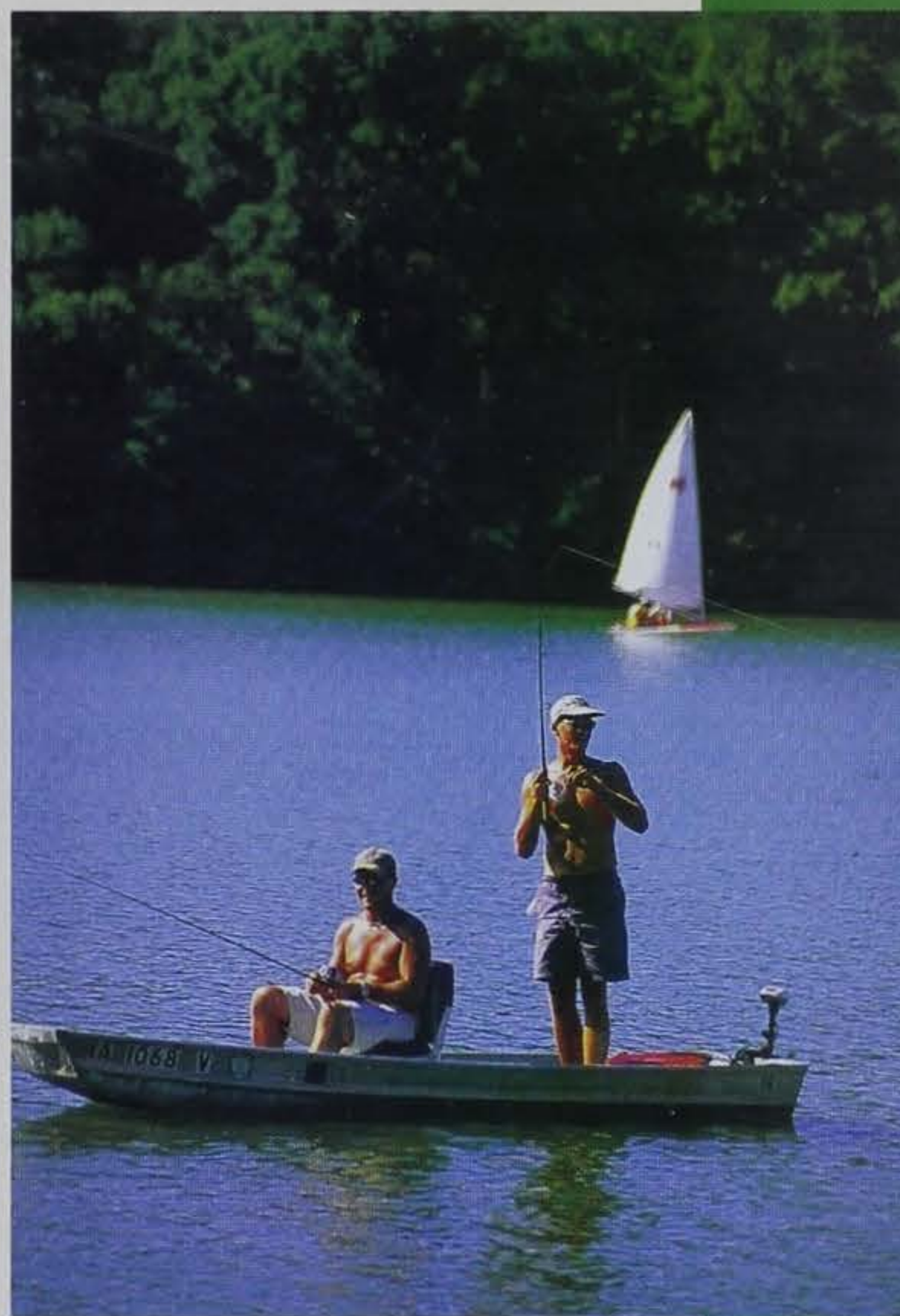
Lake Keomah was first sparked from a suggestion by

Mrs. C. C. Laffer of Sigourney in 1932. She had a vision for a state park centrally located to benefit the residents of Keokuk and Mahaska counties. The park was part of the Put-Oskaloosa-To-Work program and was included in the state's 25-year conservation plan. The park project was proposed by the state in 1933, on the condition interested communities provided the funds to purchase the land.

Construction of the park, completed in 1934, was done primarily by Civilian Conservation Corps Company No. 776 while they were camped at the Oskaloosa fairgrounds. The park was the first of several CCC projects in Iowa. The site for the park was naturally suited for an artificial lake. Two creeks converged to flow northward bordered by well-wooded hills. One dam was constructed at the south end of the park measuring 475 feet. The other dam was constructed across the stream at the northern

end of the park property. This sheet piling earthen dam is 300 feet wide at the base, 20 feet wide at the peak, 30 feet high and nearly 1,000 feet long. Its construction took roughly 11 months and 154,000 cubic yards of earth was moved. It is bordered on the east end by a cement spillway. The three-mile fitness trail following the lakeshore leads across a bridge over the spillway and along the dam before disappearing around a bend into the shaded woods.

The unique shape of the 84-acre lake provides an array of recreational opportunities for the more than 100,000 visitors who come to the park every year. The many bays and jetties around the lake bordered by timber, part of the

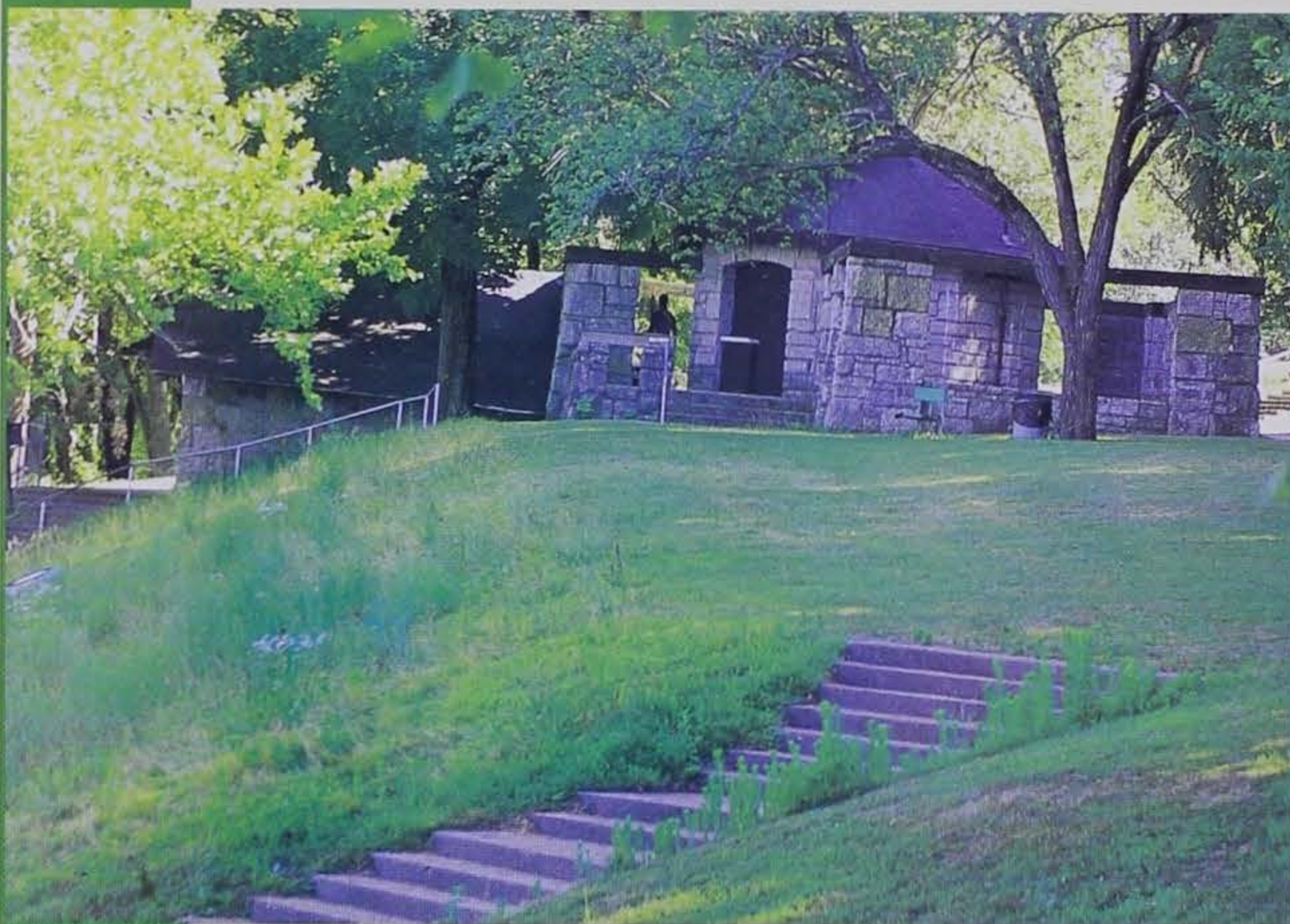


OPPOSITE PAGE and UPPER RIGHT: Lake Keomah's 84-acre lake provides a picturesque setting for anglers and boaters alike.

LOWER RIGHT: Although the park has open shelters for rent, any shady spot will suffice for a picnic lunch.



PARKS PROFILE



LEFT: The beach house, built by the Civillian Conservation Corp, is listed in the National Register of Historic Places.

BELOW: Many of the 100,000 people who visit the lake each year take advantage of the beach area.

80,000 trees planted by the CCC, contribute to the park's scenic beauty making it a very popular place for fishing and picnicking. Several picnic area including two open shelters dot the lakefront. In addition there are two boat ramps to launch private boats using electric motors only. The beach at Lake Keomah provides many hours of enjoyment for families. Across the lake along the east shore, several cottages overlook the lake.

The CCC also constructed several buildings. The lodge, concession/beach house and caretaker's house were built of native stone mined from around Freemont. The lodge, concession/beach house and erosion control structures, also built by the CCC, are listed on the National Register of Historic Places. The building at the group

camp was constructed by the National Youth Administration, but follows the architectural style of the previous buildings. Starting after Labor Day, a renovation project will rebuild the lodge, concession and group camp. After the renovation project is complete the buildings will again be available for reservation.

Today, the 88-site campground boasts a new shower building and offers a small hometown atmosphere for the

campers. Within walking distance of the campground is a picnic area with an open shelter, fishing jetties and a recently constructed handicapped fishing dock. Throughout the park is a diverse gathering of wildlife, including deer, fox, raccoon, rabbits, Canada geese, and owls.

For visitors interesting in



learning about Iowa's natural world, a seasonal naturalist presents interpretive programs on weekends during the summer recreation season through cooperative efforts between AmeriCorps and the Department

of Natural Resources.

For a day at the beach, a fishing adventure, an outdoor picnic, or a weekend family vacation, we invite you to visit Lake Keomah to truly experience a "place of quiet beauty."

Larry Zirkelbach is the park superintendent in charge of Lake Keomah. Anne Tague is an AmeriCorps volunteer working as a seasonal naturalist at the park.

LAKE KEOMAH AT A GLANCE

GENERAL INFORMATION: Approximately 366 acres containing open water, grasslands, deep woods and marshy areas.

LOCATION: 2720 Keomah Lane, Oskaloosa. Oskaloosa is six miles west of the park, Sigourney is 20 miles east and Pella is 21 miles northwest.

FISHING: 84-acre artificial lake; excellent fishing opportunities for crappie, bluegill, bass and channel catfish. Ice fishing is popular in the winter. Fishing jetty accessible to people with varying abilities located on west side.

CAMPING: 88 campsites, 52 with electric. Modern showers, rest rooms and a trailer dump station. Dining/rest room facility available for reservation, with group camping allowed nearby. Reservations accepted first business day after Jan. 1.

TRAILS: Wooded terrain provides hiking opportunities year around. Self-guided nature trail, and a fitness trail running alongside the lake. Snowmobiles can be operated on designated trails during the winter.

PICNICKING: Popular picknicking spot. Lodge and open picnic shelters available for rent.

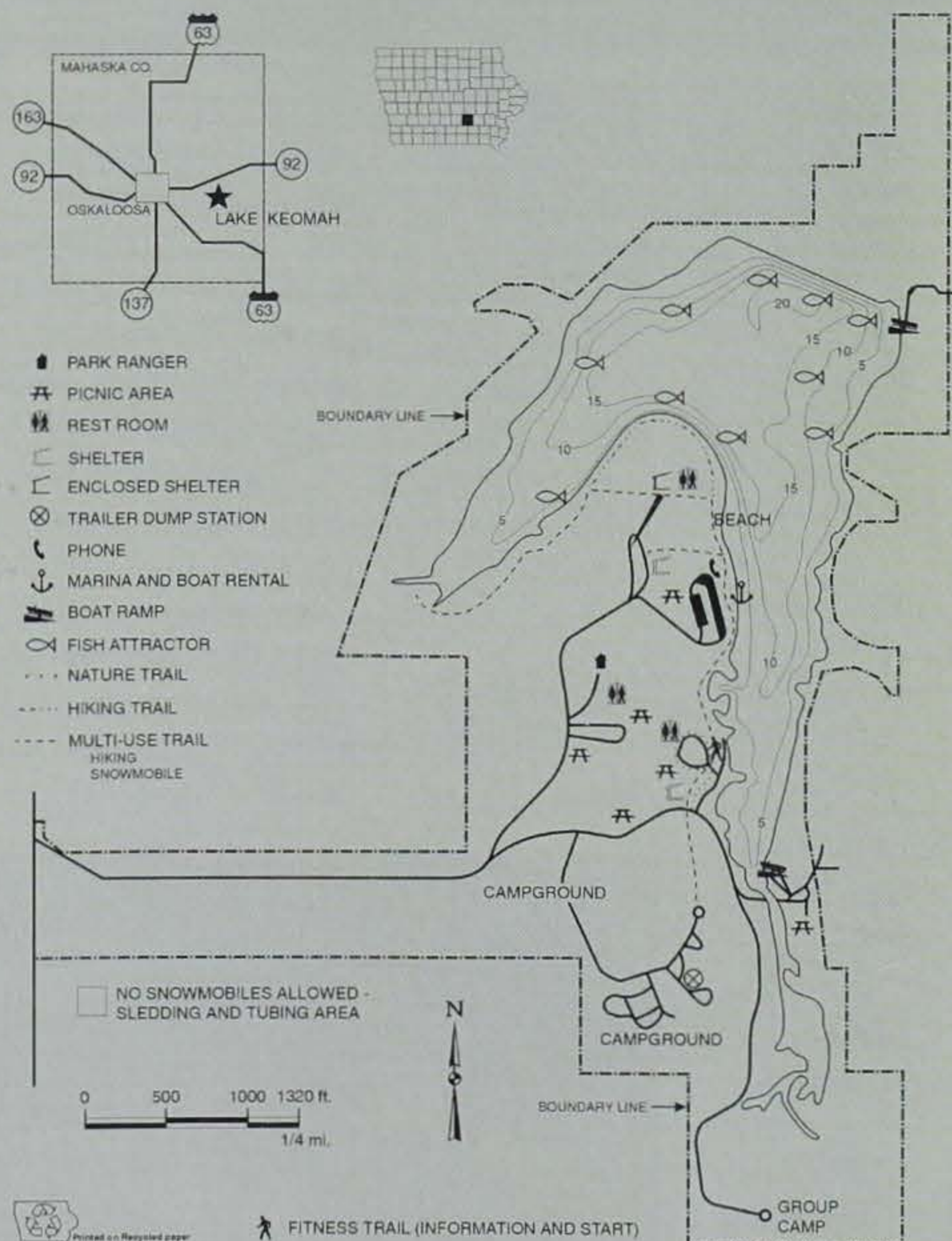
SWIMMING: Unsupervised beach with bath house.

BOATING: Electric motors only; two boat ramps available for easy access.

CONCESSIONS: Concession stand located in beach area offers refreshments, bait and rental rowboats, paddle boats and canoes.

FUN FACTS: The park's name is derived from the names of the two counties that helped finance the park more than 50 years ago -- Keokuk and Mahaska.

CONTACT: (641) 673-6975.



CONSERVATION 101

Practice Makes Perfect

— by Ben Schlader —

For many Iowans, preparing for the approaching hunting seasons is as much a part of tradition as the hunt itself.

There are firearms to clean, duck blinds to build or repair, and scouting to do. However, many hunters neglect the one thing that can make the biggest difference on opening day — practice.

Some hunters simply feel shooting practice is not necessary. However, even a few hours on the shooting range before the season can greatly improve results in the field. Add to it the fact practice can be fun, and maybe you'll find some time to visit the local shooting course.

The list of equipment is short. Eye and ear protection, usually available at the course, is necessary. Ammunition and a shotgun, and maybe a bag to carry equipment, is all you really need.

There are three basic types of shooting sports available — trap, skeet and sporting clays. Each offers a little different experience. All can be fun and help improve accuracy in the field.

Sporting clay targets vary in size and design to mimic shooting conditions common to hunting.



Trap

With trap shooting, targets are thrown from a stationary trap house. The shooter moves in a semicircle around the trap house and shoots from five stations. Rounds consist of five targets thrown from each station.

Although the shooter knows when and where the targets are coming from, the angle of the throw is unknown. Angles can vary from straight out to 45 degrees. Targets can also be thrown as singles or doubles, and at ranges from 16 and 27 yards.

Trap is a good sport to improve shooting fundamentals, and also a good way to introduce a new person to shooting. The target flights are fairly predictable, and the game can be made as challenging as the shooter desires.



A sporting clays course has 10 to 14 shooting stations and can be designed in virtually any manner.

Skeet

Skeet shooting features two trap houses: a "high" and a "low" house. As in trap, there is a certain pattern of stations each person must follow and shoot from. There are two to four targets thrown at each station. They are thrown in singles and pairs, and follow the same order each round. They are thrown on the same line every time, but the angles change as the shooter moves between stations.

Many hunters like skeet because of the added dimension of a second house and several of the targets present the crossing shots often seen in the field.

RIGHT: A little preseason practice can make all the difference on opening day.

BELOW: In skeet, targets are thrown from high and low houses (far right) located on opposite sides of the course. With trap, shooters move around a stationary house (far left).

Sporting Clays

Sporting clays is relatively new but growing in popularity. A typical course offers between 10 and 14 stations, each designed to duplicate situations often encountered in the field. Shoot a round of 50 or 100 targets on a sporting clays course and you may have practiced shooting pheasants, mallards, teal, doves, quail and even rabbits.

For example, one station may resemble decoying ducks, with targets thrown toward the shooter that land in front of the station. Small, fast targets thrown straight away are designed to mimic quail. Pheasant targets may be thrown from a tower and present high, crossing shots. "Rabbits" are some of the most fun, and frustrating, targets. They are thrown on their side and "hop" along the ground.



Paul Kirpes

At many stations, the surrounding terrain often factors into shooting conditions. Targets may appear only briefly between trees, or suddenly emerge from behind a hill.

In sporting clays, the targets are not only thrown differently, they vary in size and shape. Targets can be slightly or significantly smaller than standard targets, and some may even be flat. Of the three, sporting clays is most geared to the hunter and is often the most popular with the hunting crowd.

If your main goal is to polish

up for hunting season, there are a few things to consider. If you have more than one shotgun, spend the majority of time practicing with the one you will most likely use in the field. Dress in the clothes you'll wear when hunting. The first ringneck of the season exploding from the grass at your feet is not the time to discover your new hunting vest makes shouldering a gun difficult.

Many ranges offer competitive shooting opportunities. Leagues and nights set aside for competition are often available.

Whether you choose to visit a shooting course regularly or just occasionally, a little practice can pay great dividends in the field.

Ben Schlader is an AmeriCorp member working at the DNR's Springbrook Education Center in Guthrie Center.



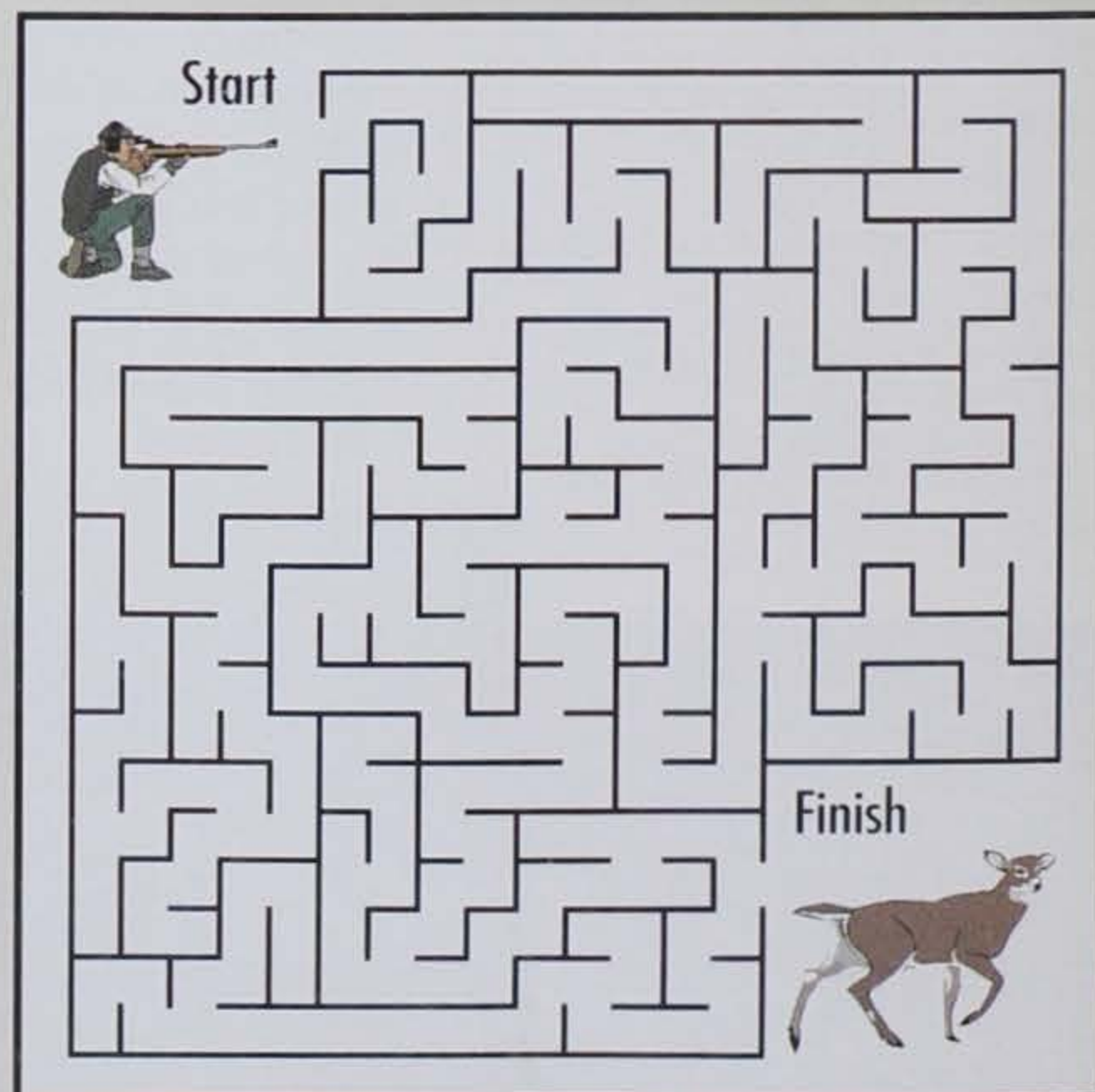
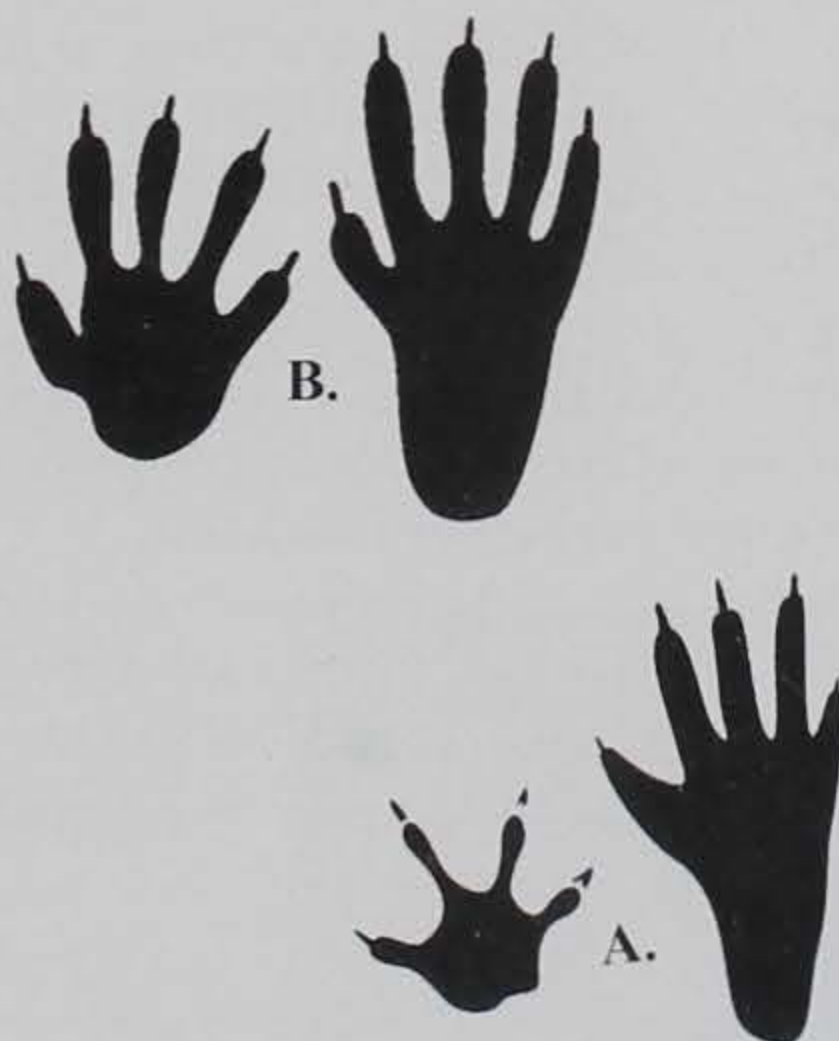
Paul Kirpes

KIDS CORNER

Know the Terms

- | | |
|---------------------------------|---|
| a. conservation | ___ 1. unlimited harvest of wildlife for sale, now illegal (early 1800s) harvest |
| b. preservation | ___ 2. animals which eat other animals to survive |
| c. introduced/exotic species | ___ 3. species protected by law which may be threatened with extinction |
| d. market hunting | ___ 4. food, cover, water, space and arrangement |
| e. bag limits | ___ 5. wise use of resources |
| f. possession limit | ___ 6. nonuse of resources (no hunting or development) |
| g. endangered/protected species | ___ 7. removal of surplus wildlife |
| h. predators | ___ 8. the time and the way in which wildlife may be harvested |
| i. game | ___ 9. wildlife harvest controlled by rules and regulations |
| j. habitat | ___ 10. wildlife which may be hunted according to legal seasons and limits |
| k. refuges | ___ 11. number of wildlife which may be taken in a day |
| l. season/methods | ___ 12. number of wildlife which you may possess at any one time |
| m. harvest | ___ 13. areas managed to increase wildlife numbers |
| n. regulated/sport hunting | ___ 14. wildlife not native to an area/country |
| o. wildlife management | ___ 15. science of helping the land produce and sustain healthy populations of wildlife |

Identify the Animal Tracks



Identify the animal tracks: A. muskrat; B. raccoon; C. cottontail rabbit; D. white-tailed deer; E. coyote; F. red fox; G. turkey



WORD SEARCH



F.

bowhunting
conservation
game
habitat
harvest
limit
muzzleloader
permission
refuges
regulations
safety
season
shotgun
wildlife



E.



I	S	A	Z	L	U	F	V	X	R	I	N	U	F	R
S	E	A	V	S	L	C	S	J	O	Q	P	N	O	E
B	E	U	F	N	K	D	H	Q	K	E	O	H	Q	D
P	O	G	R	E	G	U	L	A	T	I	O	N	S	A
E	X	W	U	P	T	O	I	I	T	X	W	T	G	O
R	F	V	H	F	O	Y	E	A	P	I	M	A	P	L
M	I	L	K	U	E	I	V	H	L	S	M	T	I	E
I	W	I	K	T	N	R	N	D	R	E	Z	I	B	L
S	T	M	W	Z	E	T	L	Q	N	F	A	B	L	Z
S	O	I	Z	S	S	I	I	M	D	L	R	A	V	Z
I	C	T	N	E	F	P	G	N	G	S	N	H	N	U
O	J	O	V	E	T	H	N	U	G	T	O	H	S	M
N	C	R	T	L	K	B	P	P	A	G	F	M	N	P
Q	A	Z	S	E	A	S	O	N	S	L	M	C	R	P
H	Z	Q	B	T	X	H	D	J	Q	N	I	O	Y	B

Hunter's Code of Ethics

1. I will consider myself an invited guest of landowners, and get permission before using their land.
2. I will obey rules of safe firearm handling and encourage others to do so.
3. I will obey game laws and regulations and insist that my companions do so as well.
4. I will acquire good marksmanship and hunting skills to ensure clean, sportsmanlike kills.
5. I will support conservation efforts to ensure hunting in future years.
6. I will help other hunters learn skills and attitudes necessary to allow them to become true sportsmen and sportswomen.

Hunter Education

Iowa residents born after Jan. 1, 1972, and nonresidents born after Jan. 1, 1967; must successfully complete a hunter education course before purchasing a hunting license. Youth hunters 11 years old or older may enroll in a course, but their certificate of completion will not be valid until their 12th birthday. Call 515-281-5145 for class dates and locations or check the DNR website at www.state.ia.us/dnr.

Special Youth Seasons

This year's youth seasons are as follows:

Deer — Sept. 22 - Oct. 7

Waterfowl — Oct. 6-7

Rooster pheasant — Oct. 20-21

See the current *Iowa Hunting, Fishing and Trapping Regulations* for specific rules and restrictions.

CONSERVATION UPDATE

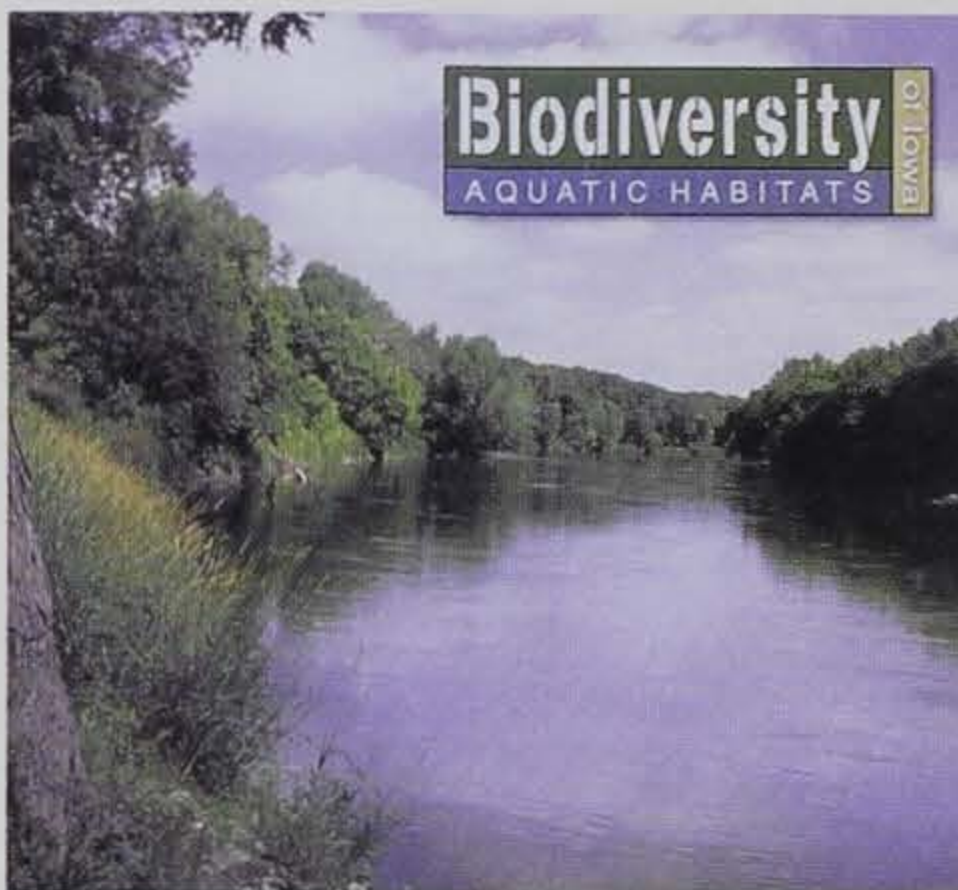
Biodiversity CD Now Available to Youth Educators

Iowa educators and youth leaders now have a helpful tool to bring natural resource curriculum into the classroom.

Biodiversity: Aquatic Habitats of Iowa is a searchable compact disk containing information about aquatic habitats in Iowa and the plant, animal and other species that live there. Each species account includes color photos, scientific classification, features, natural history, habitats, range map, sound and status.

The CD can be used as a classroom resource, in informal educational settings or as a supplement to other educational programs such as Project Wild, Aquatic Wild, Learning Tree and Fish Iowa!

Free copies of the CD are



available to educators and youth leaders upon written request. Requests should be made on school or organization letterhead and include the name of the school or organization, the age or grade of the students and an explanation of how the CD will be used. Written requests can be submitted via email at bstrngr@netins.net; by fax at (641) 747-2200; or by mail to Aquatic Education Program, 2473 160th Road, Guthrie Center, Iowa 50115.

Fort Defiance Lodge Under Renovation

Work is underway to restore the lodge at Fort Defiance State Park. The restoration work will continue through the fall and spring with completion expected before Memorial Day 2002.

The work includes complete renovation of the kitchen and rest rooms, including installing modern appliances, replacing the concrete porches and damaged logs, repairing the fireplace, and other stone work. The lodge will also

receive a new roof and a fresh coat of stain and paint.

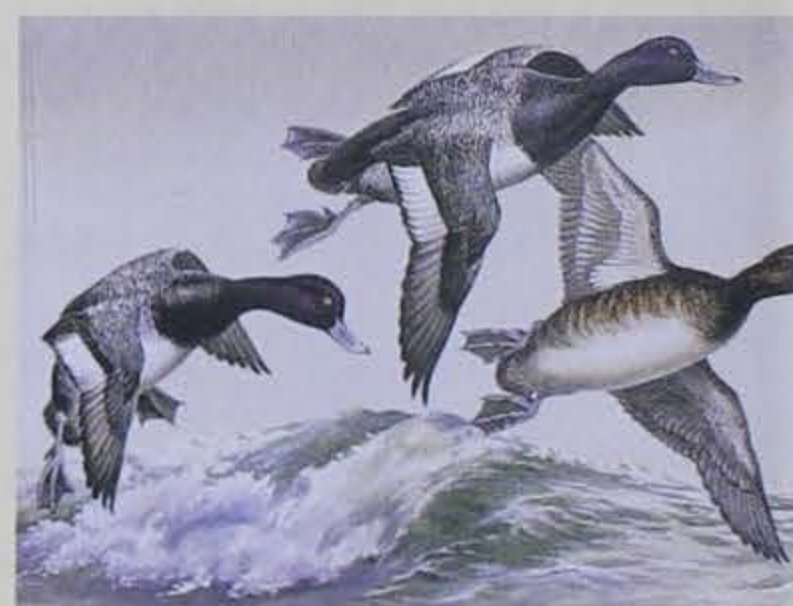
The cost is estimated at \$227,662 and will be paid from the state's Restore the Outdoors fund.

Most of the state park lodges, beach houses, auditoriums, shelters and other buildings have been renovated in recent years. Lodges at state parks are available for reservation. For more information, check out the DNR website at www.state.ia.us/parks/.

Stamp Exhibit Opens At Historical Building

A new exhibit featuring Iowa Migratory Game Bird stamps and prints has opened at the State Historical Building in Des Moines. The exhibit runs through Jan. 6, 2002.

The exhibit features 22 prints and stamps from the collection of John Spence, president of Corn State Hybrid Service. Spence and members of Ducks Unlimited supported the establishment of the stamp program, which was created in Iowa in 1972. It was designed to generate revenue for waterfowl conservation and restoration projects.



1977 Duck Stamp by Maynard Reece

The collection features stamps and prints issued from 1972 to 1993, including artwork by Maynard Reece, Nick Klepinger, J. F. Landenberger, Paul Bridgford, Jack Hahn, Larry Zach and Pat Murillo.

The State Historical Building is located at 600 E. Locust in Des Moines. The museum is open Tuesdays through Saturdays, 9 a.m. to 4:30 p.m. and Sundays, noon to 4:30 p.m. Admission and parking are free. For more information, call (515) 281-6412.

Peregrine Falcons Showing Encouraging Signs Of A Comeback

Clocked at diving speeds exceeding 250 mph, the peregrine falcon is the world's fastest living creature.

It is also one of the most uncommon. In Iowa, the peregrine easily ranks as one of our rarest nesting birds.

From 1992 through 1998, only two pairs of peregrines nested anywhere in Iowa. Both pairs were "city birds," making their homes among the concrete ledges of downtown office buildings in Cedar Rapids and Des Moines.

But it appears times are changing. During the past two summers, Iowa peregrines have shown an encouraging gain in numbers. During 2000, three pairs nested in the state. In 2001, adult peregrines occupied six active territories. Four of those were along the state's eastern border — the upper Mississippi River.

The river birds are the newest and most exciting component of the peregrine recovery. For centuries, the historic cliff face eyries of the upper Mississippi River were the stronghold of America's mid-continent peregrines. Following World War II, numbers declined sharply as populations were ravaged by pesticides.

When the last known pair failed to return to their nest ledge on Capoli Bluff at Lansing during the late 1960s, the species appeared doomed. From the Mississippi to the Atlantic, not one single bird could be found.

The eastern peregrine had ceased to exist.

In an effort to reestablish this vanished population, captive-reared, fledgling peregrines were released at seven Iowa sites. (Iowa was one of 13 states and two Canadian provinces comprising the mid-continent recovery region — an area stretching from northern Ontario to Kentucky. Since 1982, more than 800 young falcons have been released across the region.)

All Iowa release sites have produced birds that successfully nested within the targeted mid-continent region. The most spectacular results occurred when 14 young peregrines were released during 1998 at the Holnam cement plant in Mason City. Five of the 14 falcons were successful breeders.

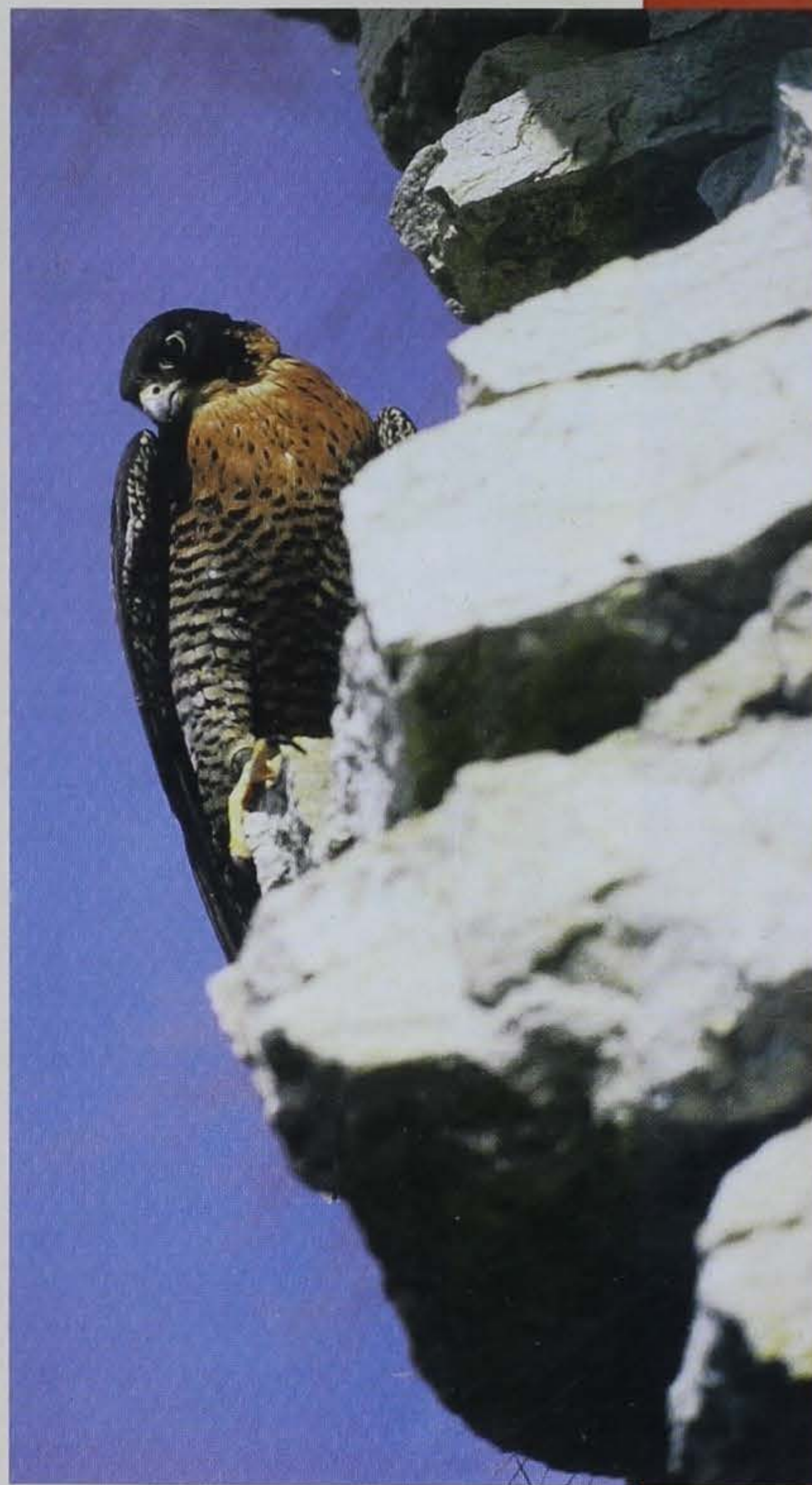
During the recovery's two decade history, the release (on average) of 13 captive-bred peregrines has been required to establish one new pair of breeding adults. However, the result of Mason City's 1998 release was one new breeding pair for every 2.8 birds.

Additional Iowa falcons (a mix of wild-hatched and captive-bred young) continue to be reported from a variety of sites

including Winnipeg, St. Louis, Little Rock and Mexico City.

The amazing life histories of some of these peregrines will be examined in a future issue of the *Iowa Conservationist*.

— Lowell Washburn



Lowell Washburn

CONSERVATION UPDATE



Electronics, one of the fastest growing contributors to the solid waste stream, is creating major concerns with disposal.

DNR Studying How To Manage 'E-waste'

The Iowa Department of Natural Resources has joined forces with state and national leaders in a year-long project to determine how to manage one of the fastest-growing contributors to the solid waste stream.

Americans are buying electronics in ever-increasing volumes, and their ultimate disposal has created an enormous waste management problem. Solving the issues associated with e-waste has become one of the DNR's top priorities for fiscal year 2002.

Personal computers are the main source of e-waste. Americans throw away 1.5 million computers annually, which could grow to 315 million by 2004. Dumping that many computers into landfills would introduce nearly 1.5 billion pounds of heavy metals such as lead, cadmium and mercury into the solid waste stream.

Computer disposal is the

biggest concern, but it's not the only one.

"Everything with a cord — and many things without cords — will eventually become e-waste," said Merry Rankin, the DNR's project leader for e-waste. "We're talking computers, microwave ovens, home theater systems, even palm pilots."

The DNR project will include a 13-week study to determine the amount of e-waste generated by Iowans, identify alternatives to landfilling e-waste and assess policy options to increase recycling. Wuf Technologies of Concord, N.H., will conduct the study.

Based on the study's recommendations, the DNR will then conduct pilot projects for recycling electronics with selected solid waste planning areas around the state to determine the most effective ways to manage e-waste. The DNR will issue a final report in June 2002.

DNR Awarded Grant To Study Greenhouse Gas Emissions

The U.S. Environmental Protection Agency (EPA) has awarded the Iowa DNR \$25,000 to inventory the state's greenhouse gas emissions. The EPA made its announcement July 11, and work will begin this fall.

Sharon Tahtinen, DNR Energy Bureau chief, said greenhouse gas emissions from 2000 will be compared to a baseline inventory developed several years ago for 1990 levels.

"This is an excellent opportunity see how the state has progressed in decreasing greenhouse gases during the past 10 years," said Tahtinen. "The data is important in understanding Iowa's contribution to global warming trends, and will help us create solutions for those concerns."

Greenhouse gases include carbon dioxide, methane and other emissions that trap heat in the earth's atmosphere. In 1990, 80 percent of Iowa's greenhouse gas emissions came from fossil fuel combustion. Other sources included landfills, wastewater treatment plants and burning of agricultural crop waste.

The Center for Energy and Environmental Education at the University of Northern Iowa in Cedar Falls will work with the DNR to measure greenhouse gas levels. Results should be available in early 2003.

EPA To Resume Open Feedlot Inspections In Iowa

The U.S. Environmental Protection Agency (EPA) announced in a recent letter it plans to resume inspections of open feedlots in Iowa.

"The main reason the EPA gave for coming back was that it estimates only about half of the open feedlots that definitely need permits have registered with the DNR," said Wayne Gieselman, DNR coordinator of the animal feeding operations program.

Association (ICA) and the DNR to bring open feedlots into compliance with current environmental regulations. Of those, 153 lots of permit size have registered with the DNR.

"I am very pleased so many producers are taking advantage of this program," Gieselman said. "This is an opportunity for them to assess their options and make informed decisions about their future."

"I think there are others who

could also benefit by registering," Gieselman added.

Gieselman said he's concerned dairy open feedlots may be disproportionately targeted when EPA comes back because only 26 dairies have registered with the DNR.

"We know there are about 3,000 dairies and 13,000 open

feedlot cattle operations in the state," Gieselman said.

The DNR and the EPA have assured producers they will bypass registered or permitted open feedlots this year during routine inspections. However, the DNR will continue to respond to complaints and will visit feedlots upon request.

The EPA notified cattlemen of its intentions in a letter addressed to the ICA.

Upcoming NRC and EPC Meetings

The dates and locations have been set for the following meetings of the Natural Resource Commission and Environmental Protection Commission of the Iowa Department of Natural Resources.

Agendas are set approximately 10 days prior to the scheduled meeting date. For additional information, contact the Iowa Department of Natural Resources, Wallace State Office Building, 502 E. 9th St., Des Moines, Iowa 50319-0034.

Natural Resource Commission:

- September 13
Davenport
- October 11
Keosauqua
- November 8
Warren County
Conservation Board
- December 13
Des Moines

Environmental Protection Commission:

- September 17
Des Moines
- October 15
Des Moines
- November 19
Des Moines
- December 17
Des Moines



Nearly all open feedlots with more than 1,000 beef cattle, 700 dairy cattle or 2,500 swine are required to have a permit. Smaller facilities may also need permits depending on the risk they pose for water pollution.

A total of 878 open feedlots have registered with the DNR under the Iowa Plan for Open Feedlots, a cooperative effort between the Iowa Cattlemen's

WARDEN'S DIARY



by Chuck Humeston

It was a late November night on a hill in southern Iowa, just above the Missouri border.

I had volunteered to work the Missouri deer season opener, like I often do, since there always seems to be a few who forget where the border is and cross over into Iowa to kill a deer.

The year before, we were watching a suspected spotlihter. He stopped his pickup, got out and steadied his high-powered rifle on the hood. BANG! I don't know if he was more surprised by missing or by how fast he was staring at red lights coming from both directions. He went back to Missouri one rifle lighter and with a pocket full of tickets.

The next year, Mark Edwards and I were in his squad when we heard fellow officers on the radio report a shot fired. Our area had been quiet, so we rushed to help. It was a night when the deer were moving, a huge temptation for someone wanting to take one illegally. Unable to find the suspect vehicle, we parked on a hill by two other officers to consider our next move.

We noticed the headlights to our right, moving slowly just this

The Border Crossing

side of the Iowa line. The truck came to an intersection and stopped, turned, then moved on slowly. Mark and I thought, "This is probably worth a look!"

We fell in behind the pickup with our headlights off. The brake lights came on a couple of times, but other than that, nothing seemed unusual. Maybe this was going to be a dry run.

Then I saw it. A flash of light coming from the driver's side window. We radioed our partners, thinking this might be the pickup the shot came from.

We fell in pursuit, figuring the occupants would pass in front of our other car. We guessed wrong. Suddenly, they pulled into a fence opening, backed up and were headed straight for us. We had no choice. Mark turned on his lights. I bailed out the passenger door and ran around the back of the pickup, planning to be at their pickup when they stopped.

Bad plan. They didn't stop. I found myself staring head-on at a pickup full of deer shiners and Mark couldn't back up because I was behind him. The pickup whizzed by me, I bailed out and did the only thing I could think to do. I yelled "STOP!"

Maybe I should have considered a career as a public address system. Officer Gary Owen, still back on the hill, said later he could hear me from across the section. It's amazing how loud you can yell when the adrenaline is flowing.

To my surprise, they stopped. I ran to the pickup, shined my flashlight into the driver's side window and told them to put their hands where I could see them. I opened the driver's door and told him to get out. He did, and I positioned him to be searched.

By that time, Edwards had backed up, jumped out and ran to the other side of the truck. The passenger, however, did not want to come out. The next thing I knew, the door opened, Mark took hold of him and out the passenger came.

I looked in the cab and found a 4-inch flashlight sitting in the ash tray. Normally we find big spotlights, but these guys were using a small light with quick flashes to avoid detection. It didn't work.

We took their two high-powered rifles and started writing them tickets. I asked them about the earlier shots we had heard. "No sir, we haven't done any shooting, but I won't lie to you. We're from Missouri, and we're looking!" I couldn't argue with that.

We handed them their paperwork, and told them they could go.

"How do I get my rifle back?" one of them asked.

"You won't," we answered.

He let out a slow moan.

"Ohhhhh, I borrowed it from my father-in-law. He's going to kick my rear."

I shook my head. I doubted his wife would be happy about the dent in his wallet either.

PARTING SHOT

Shall we dance . . . ?



This photo was sent by Stacy Slocum of Omro, Wis. It was taken along the banks of the Turkey River in Winneshiek County in July 2000. Share your photos with our readers. We are looking for shots of Iowa wildlife and outdoor recreation, humorous and/or historical (prior to 1960). Photos should be sent to *Iowa Conservationist* "Parting Shot," at Wallace State Office Building, 502 East 9th St., Des Moines, Iowa 502319-0034. Please include your name, address and daytime phone number. All photos will be returned.

